

Original Research Article

Analysis of women participation in farmer group activities in Kwara State, Nigeria

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Abstract

The level of access of women to production resources can be enhanced through their active membership and participation in farmers' associations. However, most farmer-groups in Nigeria are male-dominated. The study therefore analysed women farmers' participation in farmer-group activities in Kwara State. Specifically, the study identified the expectations of women from group membership; determined their level of participation; identified constraints to participation; and investigated the determinants of participation. A two-stage random sampling technique was used to select 142 women farmers on which a structured interview schedule was administered. Descriptive statistics, Likert scale, and Ordinary Least Square (OLS) Regression Analysis were used to analyse and present the data collected. The results revealed that the mean age, years of experience and farm size of the respondents were 46.9 years, 22 years and 3.2 acres, respectively. Access to farm credit (57%), self-help (49.4%), and farm input (31.1%) were the most important expectations from membership. The level of women participation was low (mean = 2.87) and determined by age, years of experience and farm size at $P < 0.05$. Financial constraints, poor sense of belonging, inappropriate timing of activities and socio-cultural discrimination were the most severe challenges to participation. The study concluded that women participation in farmer-group activities was low, influenced by their socio-economic characteristics. Therefore, we strongly recommend a multi-dimensional approach to enhance women's participation in group activities.

Keywords: constraints; determinants; farmers' associations; female participation; membership expectation;

INTRODUCTION

Nigeria is a food deficit country in which a third of children under age five are stunted, and nearly half (48.5%) of women of reproductive age are anaemic (WFP, 2016). Farm families who reside mainly in rural communities and depend almost entirely on agriculture for sustenance constitute the bulk of the poor and hungry in the country. The fact that agricultural production in Nigeria is dominated by millions of small-scale resource-constraint farmers underscores the need for a concerted effort towards agricultural development for food security to be attained. It is therefore important to harmonise and maximise the potentials of all stakeholders in agricultural production toward the food security challenge (Adesina, 2013). Women do not only constitute about half of the population of the country, but they also contribute 50% to 90% of agricultural labour, depending on the location (Auta et al., 2000). In addition to their active participation in production, the processing and supply ends of most crop value-chains are dominated

by women. To sustain the drive to achieve food security for the nation, alleviate poverty and enhance the rural livelihood, it becomes vital that the potentials of women as significant contributors to the agricultural industry be fully optimised.

Despite the incontrovertible contributions of women to agricultural and economic development, empirical evidence abounds on the low level of access of women to resources and opportunities such as land, credit and even extension services. According to FAO (1990), data for developing countries less than 2% of the land is owned by women, only 15% of extension agents are women, about 5% of extension services have been directed at rural women, and only 10% of women have access to farm credit. The resultant effect of this is the low productivity of women compared to their potentials and hence the need to proffer solutions that will facilitate access of women farmers to factors of agricultural production. One of such solutions is to drive the membership and participation of women in farmer groups.

The phrase farmer groups or farmers' associations have been used by different authors to define a group of farmers who share a common interest and same experiences (DENIVA, 2005; Uliwa and Fisher, 2004; Asante et al., 2011). While such groups may not be essential among large-scale agro-business entrepreneurs, it is central to production and livelihood among small-scale farmers. With small and fragmented land holdings, the small-scale nature of agricultural production makes the average farmer more vulnerable to shocks in agricultural production. By existing as groups, farmers can share risks, take advantage of economies of scale in the acquisition of inputs and obtain better prices for their produce through joint marketing (Ebonyi and Jimoh, 2002). Omotesho et al. (2016) also opined that through groups, extension officers could reach a larger number of farmers as one of the strategies to cope with the abysmally high farmer-to-extension workers' ratio in the country. Ayinde et al. (2016) enunciated the positive influence of the social network on the adoption of agricultural innovation. In addition, stakeholders in agriculture and development such as international donor agencies, NGOs, government, extension agencies, and the private sectors increasingly rely on groups as the most effective means of reaching out to farmers. The success of the group approach to extension, however, requires active participation in group activities.

Participation is the process through which stakeholders influence and share control of priority setting, policy-making, resource allocations and access to public goods and services (World Bank, 2014). Development experts opined that the participation of individual members of any farmer-group is crucial to the realisation of the goals and expectations of the group and also its members (Muhammad et al., 2011). Therefore, women need to be active participants of farmer-groups to enjoy the benefits of membership.

Unfortunately, the level of participation of women in farmers' associations in Nigeria has been decried. Most groups are sole male groups and the mixed groups are often male-dominated. Several sole women groups exist, however, few of their activities are recorded. Knowledge of women's expectation from their membership of groups will assist to increase their satisfaction. Also, information on the determinants of their participation will guide extension workers in encouraging women participation in farmer groups. It is against this background that the study sought to analyse women farmers' participation in group activities in Kwara State, Nigeria.

The specific objectives were to:

1. describe the socio-economic characteristics of women farmers who are members of farmer-groups;
2. examine the expectations of women farmers from membership of farmer groups;

3. determine the level of participation of women farmers in group activities; and
4. identify the constraints to women participation in farmer group activities.

Hypothesis

Socio-economic characteristics of women farmers do not affect their level of participation in farmer-group activities.

MATERIALS AND METHODS

The study area

The study was carried out in Kwara State, Nigeria. The total landmass of Kwara State is 32,500 square kilometers. The State has a population of about 2.5 million people (National Population Commission, 2016). It lies between latitudes 7°45'N and 9°30'N and longitudes 2°30'E and 6°25'E. Kwara State comprises rainforest in the southern parts with wooded savannah covering the larger part of the state. The state has an annual rainfall between the range of 1000 mm to 1500 mm. Average maximum temperatures vary between 30°C and 35°C. The state comprises 16 Local Government Areas and has four (4) agro-ecological zones namely; Zone A, B, C and D. Agriculture is the primary source of the economy, and the principal cash crops are: cotton, cocoa, coffee, kolanut, tobacco, beniseed, and palm produce.

Sampling procedure and sample size

The population for the study consisted of all women farmers in Kwara State who were members of farmer groups. A two-stage random sampling technique was used in selecting the respondents for the study. The first stage involved the random selection of 50% of the 315 crop-based farmers groups in the state. The second stage was the random selection of 15% of the female members in each of the selected groups to produce a sample size of 142.

Data collection and analysis

Data collection was done with the aid of an interview schedule administered between February and June 2017. Descriptive statistics involving the use of frequency counts, percentages and means were used to describe the socio-economic characteristics of the respondents. Likert scale was used to measure and present the results of the respondents' responses on the level of participation in farmer-group activities and constraints to women participation in farmer groups. Regression (Ordinary Least Square) analysis model was used to test the hypothesis of the study. The model was specified as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_6 X_6 + \beta_7 D_1 + \beta_8 D_2 + e$$

Where;

β_0 = intercept, $\beta_1 - \beta_8$ = regression coefficients

Y (dependent variable) = level of participation in farmer group activities (measured using a four-point Likert scale). A list of various elements of participation was drawn based on existing literature. Statements were formulated around each element and the respondents were required to rate on a scale of 1 to 4, the extent to which they agree to participate in each element. The scale was graduated as follows; 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree. Scores were generated for individual respondents by aggregating their scores for all the elements. Mean scores were thereafter calculated for each respondent by dividing their scores by the total number of elements responded to. The mean scores were adopted as a measure of each respondent's level of participation in group activities).

The independent variables of the model were measured as follows:

X_1 = age (in years), X_2 = level of education (number of years of schooling), X_3 = household size (number of people living under the same roof and feeding from the same pot), X_4 = annual income (amount in ₦), X_5 = farming experience (years), X_6 = farm size (acres), e = error term.

RESULTS AND DISCUSSION

Socio-economic characteristics of respondents

Results presented in Table 1 reveal that most of the respondents (69%) were between the ages of 21 and 50 years whereas 30.3% of the respondents were above 50 years of age. The minimum age of the respondents was 18 years, and maximum age was 75 years. The mean age of the respondents of 46.9 years with the standard deviation of 9.08 is an indication that though there was little participation of female youths in farming in the study area, the farming population was still within the physically active age category. It is also an indication of possible substantial experience in farming. Almost all of the respondents (94.4%) were married with a mean household size of seven members. This indicates that most of the respondents would have domestic responsibilities as wives and mothers in homes (Ekong, 2000; Fakoya et al., 2001; Banmeke and Olowu, 2005). The results also reveal a low level of educational attainment among the respondents. This is evidenced by the fact that less than half (43.6) of the respondents had formal education, most of which did not exceed the primary school level. Banmeke and Olowu (2005) reported that in developing countries like Nigeria, there is a low level of education and that improving their education would increase agricultural productivity and reduce poverty. The primary occupation of most of the respondents (85.2%) was farming. This implies

that most of the respondents were full-time farmers and indicated the active participation of women in agriculture in the study area. The average annual income of the respondents was ₦198,070 (₦361=\$1). The mean farm size and average years of farming experience were 3.2 acres and 22 years, respectively. This implies that the respondents were small-scale farmers and experienced in farming.

Respondents' expectations from membership of farmer groups

Results in Table 2 show that the highest expectation of women from membership of farmer-group was the opportunity to have access to credit and loan facilities (mean = 0.57). This underscores the importance of farm credit to rural households. The result is also in agreement with the findings of Ofuoku et al. (2008) who reported that farmers join the associations in order to have access to credit facilities. The table also reveals that to seek help from one another (M.S. = 0.49), access to farm inputs (mean score, M.S. = 0.33) and to have access to government interventions (M.S. = 0.26) were rated 2nd, 3rd and 4th, respectively, as respondents' expectations from farmer groups. Other expectations of members included training, catering for their needs, and provision of farm implements among others. The fact that the mean was low for the acquisition of agricultural information from farmers group contradicts the findings of Ofuoku and Albert (2014) who reported that one of the major reasons why women subscribe to groups was for information as it is very crucial to successful business transaction and farming activities. The least expectation of members for joining farmers group was to share ideas with each other and to pull resources together. This is contrary to the report of Aliguma et al. (2007), who stated that farmers' groups are formed to facilitate access to better agricultural technologies to improve access to better-earning markets for produce.

Level of participation of women farmers in group activities

Results in Table 3 show the level of participation of women farmers in group activities. The activity with the highest mean was voting in of group executives (M.S. = 3.46). Paying of dues and fines promptly (M.S. = 3.27) and arriving at meeting venues on time (M.S. = 3.24) were rated 2nd and 3rd, respectively, as activities that women participated in. This has implications for the sustainability of the group. Anyiro et al. (2014) also reported that women actively participated in financial and material contributions in their farmer groups to facilitate economic gains. These contributions include payment of membership dues, marriage levies, burial levies, project/development levies, among others. Other activities in order of the levels of women participation in them included

Table 1. Socio-economic characteristics of respondents

Variables	Frequency	Percentage (%)	Mean
Age			
≤30	4	2.8	46.9
31-40	34	23.9	
41-50	61	43	
50	43	30.3	
Marital Status			
Otherwise	8	5.6	
Married	134	94.4	
Religion			
Islam	99	69.7	
Christian	43	30.3	
Ethnic Background			
Nupe	48	33.8	
Yoruba	94	66.2	
Educational Level			
No formal education	42	29.6	
Quranic education	6	4.2	
Primary education	46	32.4	
Secondary education	38	26.8	
Tertiary education	10	7.0	
Primary Occupation			
Otherwise	21	14.8	
Farming	121	85.2	
Annual Income(₦)			
≤50,000	14	9.8	198,070
51,000-80,000	17	12.0	
81,000-100,000	8	5.6	
>100,000	103	72.5	
Farm Experience			
≤10	22	15.5	22.0
11-15	18	12.7	
16-20	33	23.2	
>20	69	48.6	
Farm Size(acres)			
≤5	82	57.8	3.2
6-10	22	15.5	
11-15	15	10.6	
>15	23	16.2	
Household size			
≤5	30	21.1	7
6-10	97	68.3	
>10	15	10.6	

Source: Field Survey, 2017.

attending meetings regularly (M.S. = 3.13), obeying bye-laws and regulations (M.S. = 3.13), relaying information on new ideas and farm practices to the group (M.S. = 3.11) and consciously working towards group goals (M.S. = 3.08). This is also in consonance with the findings of Anyiro et al. (2014) who reported that women actively participated in farmer's group meetings. This, in turn, has implications for information dissemination which is easier achieved when members of associations attend meetings. The activities with the lowest means were; contesting for executive positions (Mean = 2.0), and participating in

group decision making (M.S. = 2.2). In spite of women's contributions (financially and otherwise to the groups), they have very little participation in critical issues such as decision making and aspirations into leadership positions. This could be attributed to the fact that married women with children may be saddled with filial responsibilities at home and may therefore not be able to devote more time to the obligations and commitment in the leadership position of their groups. On the other hand, this could be as a result of socio-cultural values and beliefs that place men above women in all spheres in African societies.

Table 2. Distribution of respondents based on expectations from farmers' group

Expectations *	Frequency	Percentage	Mean Score	Rank
Workshop	1.00	0.70	.07	10 th
Agricultural information	33.00	23.20	.23	5 th
Better co-operation	2.00	14.08	.14	6 th
Credit and loan facility	81.00	57.00	.57	1 st
Farm inputs	47.00	33.09	.33	3 rd
To access government intervention	37.00	26.05	.26	4 th
For government recognition	12.00	8.45	.85	7 th
To improve farming activities	4.00	2.82	.28	9 th
Provision of farm implements	11.00	7.75	.77	8 th
To cater for their needs	18.00	12.68	.13	7 th
To help each other	70.00	49.30	.49	2 nd
To increase profit	4.00	2.82	.28	9 th
To promote love	1.00	0.70	.07	10 th
Training/workshop	33.00	23.20	.23	5 th
To pull and buy together	1.00	0.70	.07	10 th

Source: Field Survey, 2017.

*Multiple responses

M.S. mean score (= total score divided by total number of respondents)

Table 3. Distribution of respondents by extent of participation in group activities

Likert Items	SD	D	A	SA	Mean	Rank	Remark
I do attend meetings regularly	0(0)	0(0)	123(86.6)	19(13.4)	3.13	4 th	A
I participate in group decision making	26(18.3)	95(66.9)	17(12.8)	4(2.8)	2.0	9 th	D
I participate in voting of group executives	0(0)	0(0)	76(53.5)	66(46.5)	3.46	1 st	A
I contest for executive positions in the group	0(0)	122(85.9)	8(5.6)	12(8.5.7)	2.2	8 th	D
I pay all my dues and fines promptly	0(0)	0(0)	103(72.5)	39(27.5)	3.27	2 nd	A
I participate in implementation of plans and decisions in the group	0(0)	0(0)	119(83.8)	13(9.2)	2.9	7 th	A
I obey bylaws and regulations	0(0)	0(0)	123(86.6)	19(13.4)	3.13	4 th	A
I come to meetings on time	0(0)	0(0)	107(75.4)	35(24.5)	3.24	3 rd	A
I consciously work towards group goals	1(0.7)	1(0.7)	125(88.0)	15(10.6)	3.08	6 th	A
I relay on information on new ideas and farm practices to the group	0(0)	0(0)	125(88.0)	17(12.0)	3.11	5 th	A

Source: Field Survey, 2017

D = Disagree, SD = Strongly Disagree, A = Agree, SA = Strongly Agree

Benchmark:

MS above 2.50 = Agreed, MS below 2.50 = Disagreed

Table 4. Level of participation of women farmers in group activities

Participation	Frequency	Percentage	Mean
Low	2	1.4	
Moderate	123	86.6	2.87
High	17	12.0	
Total	142	100	

Source: Field Survey, 2017

Table 5. Constraints women face in their participation in farmer group activities

CONSTRAINTS	NC	NS	MS	S	VS	Mean	Rank	Remark
Socio-cultural barriers such as discriminations against women	40(28.2)	15(10.6)	72(50.7)	15(10.6)	0(0)	2.4	4 th	N.S
Commitment to domestic obligations	51(35.9)	13(9.2)	78(54.9)	0(0)	0(0)	2.1	6 th	N.S
Financial reasons	24(16.9)	17(12.0)	88(62.0)	6(4.2)	7(4.9)	2.69	1 st	S
Inappropriate timing of meetings	51(35.9)	10(7.0)	77(54.2)	4(2.8)	0(0)	2.24	5 th	N.S
Expectations are not met	44(31.0)	7(4.9)	57(40.1)	34(23.9)	0(0)	2.5	3 rd	S
Religion reasons	95(66.9)	3(2.1)	43(30.3)	1(0.7)	0(0)	1.65	7 th	N.S
Undue favoritism of men in the group	52(36.6)	5(3.5)	85(59.9)	0(0)	0(0)	2.2	5 th	N.S
Lack of consent or encouragement from their husbands	92(64.8)	7(4.9)	43(30.3)	0(0)	0(0)	1.65	7 th	N.S
Lack of felt need to participate actively	30(21.1)	6(4.2)	90(63.4)	16(11.3)	0(0)	2.65	2 nd	S
Inappropriate venue of meetings	56(39.4)	5(3.5)	77(54.2)	4(2.8)	0(0)	2.2	5 th	N.S
Long distance to meeting venue	49(34.5)	13(9.2)	80(56.3)	0(0)	0(0)	2.2	5 th	N.S

Source: Field Survey, 2017.

NC = Not a Constraint, NS = Not Severe, MS = Moderately Severe, S = Severe, VS = Very Severe

Benchmark:

MS above 2.50 = Severe, MS below 2.50 = Not severe

Table 6. Result of OLS regression analysis showing relationship between socio-economic characteristics and level of participation

Socio-economic characteristics	Beta	Std. Error	t-value	Sig	Decision
Age	1.81	0.29	1.752**	0.028	Significant
Educational level	0.351	0.437	1.528	0.129	Not significant
Year of Education	-0.103	0.550	-0.477	0.634	Not significant
Household Size	-0.047	0.358	-0.553	0.581	Not significant
Total Annual Income	0.035	-0.210	0.370	0.712	Not significant
Farm Experience	-0.207	0.222	-1.889**	0.016	Significant
Farm Size	0.400	0.041	3.580***	0.001	Significant

Source: Field Survey, 2017.

R = 0.596, R² = 0.356, Adjusted R² = 0.212

**P < 0.05

***P < 0.01

The result from Table 4 reveals that the level of participation of the women farmers in group activities. On a scale of 5, the mean score on the level of participation was 2.87. This implies that the level of participation was slightly above average. Level of participation was categorised into three, namely: low, moderate and high participation. The result shows that the majority (86.6%) of the respondents were categorised under a moderate level of participation. However, only 12% of the respondents had a high level of participation. Omotesho et al. (2016) reported much higher mean scores (3.96) on similar parameters on a sample comprised of 87.4% male farmers. This is indicative of higher levels of participation in male-dominated groups.

Constraints women face in their participation in farmer group activities

Results in Table 5 show the severity of the constraints faced by women farmers in participating in farmers' group activities. The most severe constraint to women participation in farmers group activities was financial constraints (M.S. = 2.69). The poor access of women to resources explains this. Though women are more challenged economically, they were expected to pay equal levies, dues and fines as men. Lack of felt need to participate actively (M.S. = 2.65) ranked second in severity. Again, this is expected as women do not take part in the crucial decisions of the group and are often not recognised as possible candidates for leadership positions. Expectations not met (M.S. = 2.50) and socio-cultural barriers such as discriminations against women (M.S. = 2.40) were rated 3rd and 4th, respectively,

as constraints to women participation in farmers group activities. Other constraints in order of severity include Undue favouritism of men in the group (M.S. = 2.20), Inappropriate venue of meetings (M.S. = 2.20), Long distance to meeting venue (M.S. = 2.20) and Inappropriate timing of meetings (M.S. = 2.20). Commitment to domestic obligations (M.S. = 2.1) was also indicated to be a constraint to participation. However, the least constraints to women participation in farmers group activities as revealed by the result were Religion reasons (M.S. = .65) and Lack of consent or encouragement from their husbands (M.S. = 1.65).

Determinants of women participation in farmer groups

As shown in Table 6, the multiple regression model with eight predictors produced $R^2 = 0.416$, $F(8,139) = 4.869$, $P < 0.01$. Though with relatively low R^2 value, the significance of the F values at $P < 0.01$ affirms the significance of the model and hence its ability to make valid predictions on the effect of the regressors. Three of the variables were found to be significant and to explain about 41% of observed variations in the level of participation of women in farmer group activities. The significant variables were: age, farming experience, and farm size. Table 6 shows that age ($t = 1.752$, $P = 0.10$), farm size ($t = 3.580$, $P < 0.01$) and years of farm experience ($t = -1.889$, $P < 0.10$) positively influenced the level of participation. This implies that the level of participation increased with increase in the three variables. The larger the farm size of the women farmers, the more likely their participation in farmers group activities. Farm size can be directly linked to output and hence income. Women with higher incomes can fulfil the financial obligations of membership better and hence participate more. Similar findings were also reported by Agbonlahor et al. (2012) and Ofuoku (2013). Similarly, the significant positive relationship between age ($t = 1.752$, $P = 0.10$) and level of participation in group activities implies that the older the respondents are, the more they participate in group activities. Farm experience ($t = 1.889$, $P < 0.10$) also directly influenced the level of participation. Abegunde (2004) also reported that years of farming experience of the farmers participating in farmer group was directly related to their level of participation in the group's activities.

CONCLUSION AND RECOMMENDATIONS

The study concluded that the level of women participation in farmer-group activities in Kwara State, Nigeria was low and significantly influenced by their age, farm size and number of years of experience in farming. It also identified the key areas of low participation as decision making and leadership. Also, financial constraints and discrimination based on

the socio-cultural belief of male superiority were identified as critical challenges to women participation.

Emanating from the findings of the study are the following recommendations:

Donor agencies such as NGOs, government, extension agencies, and private sectors should ensure adequate and sufficient provision of resources especially credit facilities to women farmers in the study area.

All agricultural developmental programmes working with farmer-groups in the study area should be sensitive to the gender imbalance in the groups and make an effort to address this, particularly in resources allocation.

There is a need for increased awareness of the importance of gender equity among farmer groups to encourage increased women participation.

REFERENCES

- Abegunde A. A. (2004): Community-based organisation in the sustainable development of the rural area in Atiba L.G.A., Oyo State. *Journal of Institute Town Planning* 17: 1-14.
- Adesina O. S. (2013): Unemployment and Security Challenges in Nigeria. *International Journal of Humanities and Social Sciences* 3: 146-156.
- Agbonlahor M. U., Enilolobo O. S., Sodiaya C. I., Akerele D., Oke J. T. (2012): Accelerating Rural Growth through Collective Action: Groups' Activities and Determinants of Participation in Southwestern Nigeria. *Journal of Rural Social Sciences* 27: 114-136.
- Aliguma L., Magala D., Lwasa S. (2007): Uganda: Connecting Small-scale Producers to Market. The case of the Nyabyumba United Farmers' Group in Kabale District, Re-governing Market Innovative Practice series.'
- Anyiro C. O., Ajuka P. N., Emerole C. O., Orji I. E. (2014): Determinants of Women's Participation in Self Help Group Led Micro-Financing of Farms in Isuikwuato Local Government Area of Abia State, Nigeria. *Scientific Papers Series Management. Economic Engineering in Agriculture and Rural Development* 14: 21-29.
- Asante B. O., Sefa V. A., Saarpong D. B. (2011): Determinants of Small-Scale Farmers Decision to Join Farmer Based Organizations in Ghana *African Journal of Agricultural Research* 6: 2273-2279.
- Auta S. J., Abubakar S., Hassan Z., Hassan R. (2000): An assessment of the contribution of women to family farming in North Eastern Nigeria. A Research Report Submitted to Nears/Abu Zaria, Nigeria. September 2000.
- Ayinde O. E., Aina V. I., Omotesho K. F., Jesudun O. M. (2016): Social Network and Innovation Dissemination among Farmers in Kwara State, Nigeria. *Journal of Agricultural Research Development* 15: 20-30.

- Banmeke T. O, Oluwu T. A. (2005): Agricultural information needs of women farmers in South Western Nigeria: Lessons for effective extension delivery. *Nigeria Journal of Agricultural Extension* 8: 32–40.
- Development Network of Indigenous Voluntary Associations (DENIVA) (2005): Effectiveness of Farmer-groups as Viable Institutions for Farmer Empowerment and Poverty Reduction in the Implementation of the Plan for the Modernization of Agriculture(PMA). Retrieved from http://www.deniva.or.ug/files/programmeagriculturetrde_research_farmergroups.pdf
- Ebonyi V., Jimoh O. B. (2002): Cooperative movements: A way out of poverty. Longman Publishers. pp. 9–10.
- Ekong E. W. (2000): Group and non-group women farmers' access to agricultural production resources in Akwa Ibom State of Nigeria. Unpublished Ph.D. Thesis, Department of Agricultural Extension and Rural Development, University of Ibadan, 119 p.
- Fakoya E. O, Apantaku S. O., Unaebe C. E. (2001): Women's participation in sustainable crop farming activities in Odeda L.G.A. of Ogun State. *Journal of Environmental Extension* 2: 24–30.
- FAO (1990): Women and Sustainable Food Security. FAO Corporate Document Repository. Retrieved from www.fao.org/docrep/x0171e/x0171e02.htm on 1st March 2016
- Muhammad H. U., Umar B. F., Abubakar B. Z., Abdullahi A. S. (2011): Assessment of Factors Influencing Beneficiary Participation in Fadama II Project in Niger State, Nigeria *Journal of Basic and Applied Science* 19: 248–252.
- National Population Commission NPC (2016): Report of 2016 projected Population Census.
- Ofuoku A. U. (2013): Propensity of Farmers to Subscribe to Farmers' Groups in Delta State, Nigeria. *International Journal of Rural Studies* 20: 1–6.
- Ofuoku A. U., Albert C. E. (2014): Rural Women Farmers' Assessment of Credit Oriented Self-Help Groups in Delta State, Nigeria. *Journal of Agricultural Sciences* 59: 329–340.
- Ofuoku A. U., Olele N. F., Emah G. N. (2008): Determinates among Fish Farmers in Delta, Nigeria, *Journal of Agricultural Education and Extension* 14: 297–306.
- Omotesho K. F, Ogunlade I, Lawal M. A, Kehinde F. B. (2016): Determinants of level of participation of farmers in group activities on Kwara State, Nigeria. *Journal of Agricultural faculty of Gaziosmanpasa University* 33: 21–27.
- Uliwa P., Fisher D. (2004): Assessment of Tanzania's Producer Organization Experiment and Environment. USAID Economic growth.
- World Bank (2014): Participation and civic engagement: Retrieved from <http://go.worldbank.org/FKWKNE86V0> on 28th August 2014
- World Food Programme WFP (2016): 10 Facts about Nutrition in Nigeria, Retrieved from <http://www.wfp.org/stories/10-fact-about-food-and-nutrition-nigeria>

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