

SOCIAL INCLUSION OF WOMEN AND AGRICULTURAL ACTIVITIES IN RURAL COMMUNITIES OF DELTA NORTH AGRICULTURAL ZONE OF DELTA STATE, NIGERIA.

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Abstract

The study assessed the social inclusion of women and their agricultural activities in rural communities of Delta North Agricultural Zone of Delta State, Nigeria. The specific objectives of this study were to: describe the socio-economic characteristics of women in the study area; Identify the extent of social inclusion experienced by women at community level; ascertain if women farmers were socially included at farmers' group level; ascertain their level of production annually; determine the effect of social inclusion on their agricultural productivities. Data were collected with the use of structured interview schedule and questionnaire. Data were subjected to analysis using descriptive statistical tools namely frequency distribution, percentages and mean. Inferential statistics were used in testing the hypotheses. The study shows that majority of the rural women used for this study fell with the age brackets of 30-39 years. Representing 35.0%, 58.33% of the women were married, 23.33% were single, and those without formal education constituted 27.50%, while 21.16% had primary education, 29.16% of women had secondary education and 26.66% had tertiary education. This implies that majority of the rural women had one form of formal education or the other. As regards, household size, 4.16% of the women had household sizes of between 1-2 persons; 15.83%, 3-4 persons; 25.0%, 5-6 persons; 26.66%, 7-8 persons; 20.0%, 9-10 persons; 24.16%; 10 and above persons. Relatively a good number of them (28.33%) had more than 10 years of farming experience. Only 19.16% earned more than ₦50, 000 farm income on monthly basis showing that only very few rural women farmers live above poverty level. Most (86.66%) had farming as their major occupation. This ascertains the fact that farming is the major livelihood activity of the rural people, especially women. They had an average farm size of 2ha. Most (50.0%) of them practiced mono cropping; 27.5% practiced mixed cropping; 14.16%, practiced fish farming; 5.83% practiced livestock farming. This shows that majority of the women were engaged in mono crop production practice in order to produce food for both sales and consumption. Furthermore, as regards aim of production, 59.16% of the women produced for both sales and consumption. Most (36.66%) of them had 11-20 years of experience

as farmers' group members; 23.33% had 21-30 years; 15.0%, 31-40 years; 6.66%, 41-50 years; and 17.5%, 50 and above years. Social inclusion of women farmers at the group level positively influenced their agricultural outputs. It is recommended that women should be further socially included at community and group levels.

Keywords: Social inclusion; social exclusion, farming activities; gender equity; agricultural activities; rural communities; farmers' groups.

Introduction

Agricultural sector remains amongst the most important sectors in the economy of any country. Amidst its employment generation potentials, it also plays major role in contributing to Nation's Gross Domestic Product (GDP) and foreign exchange earnings. Agriculture in Nigeria has way long been of great help to its economy; it's a known fact that Agriculture provides 70% of the employment in the country (Nkonya and Philips, 2009). The sector is being transformed by commercialization at the small, medium and large-scale enterprise levels. The importance of the agricultural sector to Nigeria's economy include: food provision, contribution to the gross domestic products (GDP), source of employment, provision of raw materials for agro-allied industries and generation of foreign earnings (until the early 1970s, agriculture exports were the main sources of foreign exchange earnings) (Nkonya and Philips, 2009).

Social inclusion describes the state of being included in a community and society as a whole; a condition in which individuals and groups can access the range of available opportunities, services and resources and contribute to planning and decision making. This notion of social inclusion has come to the fore because of the growing recognition that well-being involves more than reasonable income levels and access to material goods. Social inclusion also refers to the policies and actions intended to influence institutions and change the perceptions that create and sustain exclusion (Beall, 2002).

Women are taking larger and more defined roles on farms and in agriculture related businesses. There is a speedy increase in the leadership roles embarked upon by women in farm operations. According to census

data, women operators have increased drastically by 20%. Globally, 70% of all farmers are women (Beall, 2002) and in Rivers State, the case is still same as rural women provide over 65% of the labour force, contribute significantly in home keeping, childcare, farm work and achievement of rural development programmes (Olawoye, 2007). Despite the fact that women make up over 75% of agricultural workers and livestock keepers in developing countries, they are responsible for their family food security and face significant difficulties in accessing natural resources, securing proper ownership, knowledge, and markets which hinder their productive capacity (Nnadi and Akwiwu, 2005; Ukpongson, 2006; Olawoye; 2007). Women's role in agricultural operations is very significant. They contribute about three-fourth of the labour required for agricultural operations (Chandy, 2013). Women play an extremely important role in agricultural development accounting for an estimated 60-70 percent of the labour force thus playing a pivotal role in sustaining the economy. This goes a long way in revealing the very crucial role of women in the agricultural sector (Meyer and Naarajan, 2000). In rural areas where most of the hungry people live, women produce most of the foods consumed locally, their contributions are much better since they have equal access to essential resources and services such as credit facilities and training.

Food production and supply companies typically set up contracts with men, with an implicit understanding that wives will provide some labour during harvest. If women are granted free access to basic agricultural inputs or resources in general, there will be an increase in the extent they can attain in food production thereby enhancing the level of farm output generated by women. This will eventually turn the women in agriculture into commercial farmers who can confidently provide food for their families and generate income for themselves through the sales of their farm produce. Inclusion of women for land ownership results in an increase in food security and maximum productivity. Also, the inclusion of women in policy making in agriculture reduces the ignorance of women on basic policy guiding agricultural sector. Upholding women's involvement in policy making can be a sure way of improving women's involvement and participation in identifying and developing food security project that can also help them to become aware of their right to some agricultural inputs e.g. land. The report of the world water day, 2012 stated that women, despite making up about 63% of the agricultural workforce across the globe still have limited participation and ownership right within agriculture. It is further stated that if women were given more opportunities/rights in farm and farming

techniques, both family life and entire community would benefit.

FAO, (2011) stated that agriculture is underperforming in many developing countries for a number of reasons among these is the fact that women lack the resources and opportunities they need to make the most productive use of their time. It went further to explain that women are farmers, workers and entrepreneurs, but almost everywhere they face more severe constraints than men in accessing productive resources, market and services. There is a great challenge caused by the gender inequality which serves as a stumbling block to productivity, and as well reduce the potent importance of the sector which in turn depletes the economic growth and development.

Objectives of the Study

The general objective of this study was to assess the social inclusion of women and its effects on their agricultural activities in Delta North Agricultural Zone of Delta State. The specific objectives were to:

- i. determine the socio-economic characteristics of women in the study area.
- ii. identify the extent of social inclusion experienced by women at community level.
- iii. ascertain if women farmers are socially included in farmers' group level.
- iv. ascertain their level of production annually.
- v. determine the effect of social inclusion on their agricultural productivity.

Research Hypotheses

This study was guided by the following research hypothesis

H₀₁: Women's social inclusion has no significant relationship with agricultural productivity.

H₀₂: The level of women's social inclusion in farmers' group's activities has no significant relationship with agricultural productivity.

Research method

The study was conducted between January and July, 2017, in Delta North, agricultural zone of Delta State. The agricultural zone is made up of Ukuwani, Ndokwa West, Ndokwa East, Ika South, Ika North East, Aniocha North and South, Oshimili North and Oshimili South Local Government Areas. It is situated within longitudes 5° 50' and 6° 45' east of the Greenwich Meridian and latitudes 5° 52' and 6° 30' north of the equator.

The area lies within the rain forest and derived savannah belt with vegetation comprising light forest with shrubs spread over areas of low and fairly high relief. Climatically two main prevailing winds determine the weather of the area; the North-Easterly air mass which emanates and blows from the Sahara

region between the months of November and April, is responsible for dry season while the south westerly wind from the Atlantic ocean which blows across the area between the months of May and October brings the raining season.

Mean annual rainfall and temperature values are estimated to be low (at 1650.1mm) and 30°C respectively (NIMET, 2016). The major occupations of the people are farming and fishing. Their cropping system is mainly mixed cropping. Examples of crops they cultivate are cassava, yam, Okra, garden egg, cocoyam, rice, maize, palm, rubber and sweet potatoes.

The population of the study includes all registered women in farmers' groups in Delta North Agricultural Zone. Multistage sampling technique was used to select respondents. In the first stage 5 blocks were randomly selected. The blocks selected during the preliminary stage were Oshimili North, Aniocha south, Ukwuani, Ika South and Ika North East local government areas.

In the second stage, 5 farming rural communities from each block were randomly selected. The registered farmers' groups in the selected communities were identified through community leaders. Out of the identified farmers groups in the 5 communities randomly selected, 10% of the registered women in farmers' groups were randomly selected for the study. Primary and secondary data were used for the purpose of this study on the selected respondent through the use of questionnaire as well as personal interview scheduled. Secondary data were accessed from the records of the selected farmers' groups. Primary data about women's socio-economic characteristics such as household size, age, educational level, marital status, farm income, major farm activities, extension contact and farm size.

The following tools for data analysis were used based on the specific objective of this study.

Objective i was achieved using descriptive statistical tools such as mean, frequency distributions and percentages.

Objective ii: identify the areas of social inclusion experience by women at community level; This was achieved using descriptive statistical tools such as mean, derived from 4-point likert type scale of strongly agree (4), agree (3), disagree (2) and strongly disagree (1).

Objective iii: ascertain if women are socially included in farmers' group level; this was achieved using descriptive statistical tools such as mean. Frequency counts and percentages were also used to determine inclusion.

Objective iv: ascertain their level of production annually. This will be addressed with the use of frequency counts and percentages.

Objective v: determine the effect of social inclusion on their agricultural productivity; this was achieved by hypothesis (H_{01}) using inferential statistical tools such as Pearson product moment correlation coefficient.

Hypothesis 2 was tested using Pearson product moment correlation of the grouped data.

Results and Discussion

Socio-Economic Characteristics of Respondents

Table 1 shows that 32.50% of the rural women fell within the age brackets of 20-29 years; 35% were between the ages of 30-39 years, 22.50% were between 40-49 years and 13.33% were in their 50 and above years. This reveals that majority of the rural women used for this study fell within the age brackets of 30-39 years. With mean age of 35 years, it also shows that 58.33% of the women were married while 23.33% were single. Furthermore, it shows that 27.50% of the women had no formal education, 21.66% had primary education, and 29.16% women had secondary education while 26.66% had tertiary education. This implies that majority of the rural women had one form of formal education or the other. As regards, household size, 4.16% of the women had household sizes of between 1-2 persons; 3-4 persons, 15.83%; 5-6 persons, 25.0%; 7-8 persons, 26.66%; 9-10 persons, 20.0% and 10 and above, 24.16%. They had average household size of 5 persons. Ntege-Nanyeenya *et al* (1997) observe that household size was important in providing rural farmers with labour required for agricultural activities. Relatively, a good number of them (28.33%) had more than 10 years of farming experience. Only 19.16% earn more than ₦50,000 on monthly basis showing that only very few rural women live above poverty level. Most (86.66%) had farming as their major occupation. This ascertains the fact that farming is the major livelihood activity of the rural people especially women. They had an average size of 2ha. Most (50.0%) of them practiced cropping; (27.5%), practiced mixed cropping; (14.16%), practiced fish farming; (5.83%), practiced livestock farming. This shows that majority (59.16%) of the women were engaged in mono crop production practice in order, to produce food for both sales and consumption.

As regards farmers' group membership experience, most (36.66%) had 11-20 years of experience; (23.33%) had 21-30 years; (15.0%), 31-40 years; (6.66%), 41-50 years; and (17.5%), 50 and above years. Those that had 40 and above years of farming experience were involved in agricultural child labour in their childhood years. Ofuoku *et al* (2014) found that socioeconomic characteristics of parents in Nigeria influences involvement of children in farm labour.

Table 1: socio-economic characteristics of respondents

Variables	Frequency	Percentage (%)
Age (years)		
20-29	39	32.50
30-39	42	35.0
40-49	27	22.50
50 years and above	16	13.33
Marital status		
Single	28	23.33
Married	70	58.33
Divorced	7	5.83
Widowed	14	11.66
Educational level		
No formal education	33	27.50
Primary education	26	21.66
Secondary education	35	29.16
Tertiary education	32	26.66
Household size (no of persons)		
1-2	5	4.16
3-4	19	15.83
5-6	30	25.0=5person
7-8	32	26.66
9-10	24	20.0
10 and above	29	24.16
Farming experience(years)		
1-5	34	28.33
6-10	22	18.33
11-20	18	15.0
20 and above	17	14.16
Monthly income		
1,000-10,000	17	14.16
11,000-20,000	23	19.16
21,000-30,000	11	9.16=16,800
31,000-40,000	18	15.0
41,000-50,000	25	20.83
50 and above	23	19.16
Major occupation		
Farming	104	86.66
Non-farming	15	12.5
Size of farm		
0.5-1	30	25.0
1.5-2	34	28.33=2ha
2.-3	33	27.5
3.5-4	22	18.33
Farm activity		
Cropping	60	50.0
Mixed cropping	33	27.50
Fish farming	17	14.16
Livestock farming	7	5.83
Aim of production		
Sales	34	28.33
Consumption	10	8.33
Both	71	59.16
Membership of farmers' group experience (years)		
11-20	44	36.66
21-30	28	23.33
31-40	18	15.0
41-50	8	6.66
50 and above	21	17.5

Source: Field survey data 2017

Participation in farmers' group leadership

Table 2 indicates that some of them had held positions of chairperson (8.33%), treasurer (11.66%), assistant chairperson (5.83%), secretary(5.0%), financial secretary (6.66%), assistant financial secretary (1.66%) and group members (62.5%). This implies that most women are socially excluded from holding leadership position in groups, but remain followers. The participation of women in mixed-sex groups is no guarantee for equitable outcome amongst members, even where women are more numerous in mixed- sex

formal agricultural cooperatives, they are rarely well represented in leadership and decision-making positions (Nyang *et al.*2010). Gotschi *et al.*(2008) in a study of farmers' group from one district in Mozambique found that although men and women had equal membership rights through established by-laws, and participated equally in group activities that included undertaking communal work, access to leadership position and the benefits from social capital were unequally distributed.

Table 2: Participation in farmers' group leadership

Position in farmers' group	Frequency	Percentage (%)
Chairperson	10	8.33
Treasurer	14	11.66
Assistant chairperson	7	5.83
Secretary	6	5.0
Financial secretary	6	5.0
Assistant secretary	8	6.66
Assistant financial secretary	2	1.66
Member	75	62.5

Annual level of production

Women who produced crop outputs of from 1,000-5,000 had 36.66%; 5,100-10,000 =8.33%; 10,100-10,500=0.01%; 10,501-20,000=3.33%; 20,000-23,000=1.66%; 25,000 and above=15.83% annually (Table 3).

Table 3: Annual level of crop production

Level of production annually(Kg)	Frequency	Percentage(%)mean
1000-5000	44	36.66
5100-10000	10	8.33
10100-10500	1	0.83=9500
10501-20000	4	3.33
20000-25000	2	1.66
25000&above	19	15.83

The area of social inclusion experience by women at community level

Table 4 shows the area of social inclusion experienced by women at community level. Result shows that women in the study area were included. Specifically, the women were included in access to information source (mean = 2.78), access to extension service delivery (mean = 2.55), access to ownership of basis agricultural asset (mean = 2.58), participation in decision/policy making process (mean = 2.83), access to financial services (mean = 2.8). They were however excluded from land inheritance right. The inclusion index of 0.64 implies that women were included in 64% of the activities at community level. That women had access to information sources is at variance with the findings of Ifeanyi-Obi *et al.*(2014) who reported that women in Ahoda agricultural zone of Rivers State had no access to information sources. This fact is attributable to cultural belief in the community.

Kabane (2010) argues that constrain which are faced by women farmers differ from country to country and culture to culture. That women were excluded from land inheritance right is in consonance with Yemisi and Idisi (2014); Ifeanyi-Obi *et al.*(2014); World Bank, FAO and IFAD (2009). In Nigeria and other patriarchal societies for instance, women lack independent right to land. Land inheritance rights are only allocated to men who are either sons or husband. World Bank, FAO and IFAD (2009) are of the opinion that women be allowed access to land either directly or indirectly, as the majority have limited/ no access to control over land.

Women in the study area were socially included in decision making at community level, though limited. This is incongruent with the findings of Mamah (2011) who opines that women are socially excluded for participation at community level decision making.

Table 4: Social Inclusion at Community Level

Statement		SA	A	D	SD	SCORE	MEAN
a	I have access to information source.	45(180)	35(105)	23(46)	3(3)	334	2.78
b	I have access to extension service that can improve my agricultural productivity.	30(120)	40(120)	30(60)	7(7)	307	2.55
c	I have access to ownership of basic agricultural resource e.g land.	34(136)	51(153)	10(20)	1(1)	310	2.58
d	I am entitled to land inheritance.	9(36)	21(63)	30(60)	33(33)	192	1.6
e	I am involved in decision/ policy making.	43(172)	45(135)	12(24)	9(9)	340	2.83
f	I have access to financial services.	42(168)	53(159)	12(24)	3(3)	354	2.95
g	I have right to belonging to useful association.	46(184)	35(105)	22(44)	3(3)	336	2.8

Grand inclusion mean =2.58

Inclusion Index = 0.64

Ascertain if women our socially included in farmers' group level activities

Table 5 shows that they had access to information source through their groups (mean =2.78), they had access to extension service delivery through their groups (mean = 2.55), participated in group's activities (mean =2.58), had right to contest for group leadership position (mean =2.8), involved in decision/policy making in farmers' group (mean =2.76), had access to financial services in farmers' groups (mean =2.95) and also had access to group member's empowerment programs (mean =2.8). Ofuoku and Urang (2012) found that most of these facilities they had access to are among the reasons farmers subscribe to farmers' groups. From this study, women had access to financial service in farmers' group which is in contrast to the findings of Okoro (1988) who reported that no

matter how government and financial institutions try, in spite of the relaxation of measures for obtaining loans for agricultural purpose, most of our women due to ignorance and poor education tend to shy away from obtaining these loans.

The implication of these findings is the women were able to achieve their aim of joining their various farmers' groups. If otherwise, they would have unsubscribed to their various groups. Ogiowo and Eke (1999) as cited by Ofuoku and Urang (2012) opine that to the extent that group members' needs are satisfied, the member tends to remain in the groups and consequently, the groups remain cohesive. The inclusion index of 0.68 implies that the women were socially included in 68% of the activities/benefits of their various groups.

Table 5: Social inclusion at farmers' group level activities

Statement		SA	A	D	SD	SCORE	MEAN
a	I have access to information source through the group.	45(180)	35(105)	23(46)	3(3)	334	2.78
b	I have access to extension service that can improve my agricultural productivity through the group.	30(120)	40(120)	30(60)	7(7)	307	2.55
c	I participated in group activities.	34(136)	51(153)	10(20)	1(1)	310	2.58
d	I have right to contest for group leadership positions.	47(188)	36(108)	19(38)	2(2)	336	2.8
e	I am involved in decision /policy making in farmers' group.	43(172)	45(135)	12(24)	9(9)	332	2.76
f	I have access to financial services.	42(168)	53(159)	12(24)	3(3)	354	2.95
g	I have access to group members' empowerment programmes.	46(184)	35(105)	22(44)	3(3)	336	2.8

Cut-off score =2.5 (≥ 2.5 = inclusion; < 2.5 exclusion)

Grand inclusion mean = 2.74. Inclusion Index= 0.68

Effect of social inclusion on their agricultural productivity

Table 6 shows that out of the 11 statements used to capture the effect of social inclusion on their agricultural productivity, the women agreed that it enabled them to have access to basic agricultural information (mean = 3.05), participate in decision making process in their community (mean = 2.78), them to have enhanced access to financial service (mean = 2.97), to have access to collateral for procurement of loan (mean = 2.95), enhanced their capacity to procure important pieces of agricultural equipment (mean = 2.90), it encouraged them to transform from subsistence farming to commercial farming (mean = 3.01), gave them access to extension services (mean = 2.86), it reduced their poverty level (mean = 3.51), it resulted to increased agricultural

productivity (mean = 3.10), it resulted to enhanced nutrition level and well being of their families (mean = 3.2).

The social acceptability or inclusions of women in communal decision making and agricultural groups had a positive impact on their agricultural productivity and their well being. This agrees with the report of NAERLS (2009), where it report that women in Anambra state of Nigeria contributed more than men in terms of labour input in farming when included in agricultural activities and rural development. A survey of peasant agricultural women in northern Nigeria also revealed that rural women take part in income generating activities particularly in agricultural production and other agriculture related activities when being included (Malina, 1988).

Table 6: Effect of social inclusion on their agricultural productivity

	Statements	SA	A	D	SD	Score	Mean
1	It enables one to access basic agricultural information.	46(184)	52(156)	4(8)	18(18)	366	3.05
2	I participate in decision making processes in my community.	35(140)	51(153)	7(14)	27(27)	334	2.78
3	I have chances of securing financial services e.g loan and subsidies etc.	50(200)	40(120)	7(14)	23(23)	357	2.97
4	It grants me access to collateral to procure loan.	43(172)	49(147)	8(16)	20(20)	355	2.95
5	It enhances my capacity to procure important agricultural equipments.	44(176)	42(126)	10(20)	27(27)	349	2.90
6	It encourages me to transform subsistence farming to commercial farming.	37(148)	58(174)	12(24)	13(13)	359	2.99
7	It widens access to improved farm inputs e.g seedlings.	37(148)	58(174)	14(28)	12(12)	362	3.01
8	Access to agricultural products extension services.	33(132)	44(132)	37(74)	6(6)	344	2.86
9	It reduces my poverty level.	77(308)	35(105)	3(6)	3(3)	422	3.51
10	It results to increase in agricultural productivity.	50(200)	40(120)	23(46)	7(7)	373	3.10
11	It results to enriched nutrition and well being of family.	60(240)	30(90)	24(48)	6(6)	384	3.2

Test of Hypotheses

HO₁: women's social inclusion has no significant relationship with agricultural productivity.

At community level, the relationship coefficient is close to 0 ($r = 0.042$) (Table 7). This means there is little or no relationship between women's social inclusion and agricultural productivity, which means the social inclusion at community level, does not have significant relationship with the agricultural output of female farmers. This is attributable to the fact that the female farmers are more or less independent of community culture of inclusion. This is at variance with *a priori* expectation. Women account for more

than half of the work force by participating in different activities, either directly or indirectly. The gender division of labour varies from one society and culture to another, and within each culture, external circumstances influence the level of activity (Nigist, 2004). However, except in a few most developed countries, women's efforts are not yet realized by societies. According to (Beneria, 1991) rural women play multiple roles in agricultural system. They maybe agricultural processors, market women, as well as agricultural producer and procreators and they are active participants in the social and cultural activities of the community.

Table 7: Estimation of the relationship between social inclusion at community level and agricultural production

	Agricultural output	Community level Social inclusion
Agricultural output	1	0.042
Community level social inclusion	0.042	1

HO₂: The level of women's social inclusion in farmers' group's activities has no significant relationship with agricultural productivity.

Group level social inclusion has significant and positive relationship with agricultural output of the female farmers ($r = 0.682$) (Table 8). It means the agricultural output is influenced by their level of inclusion in activities of their various group. Their activities in the group had positive effect on their agricultural output. Inclusion in their various groups'

activities is an encouragement to them, as they thereby share of the benefits of inclusions groups' activities/benefits. If they were excluded, they would have not been satisfied with their groups and would have unsubscribed from them. Ofuoku (2013) found that various farmers' groups in Delta State experienced low subscription rates which were prompted by members' dissatisfaction that resulted to their withdrawal from such groups.

Table 8: Estimation of relationship between farmers' group level social inclusion and agricultural productivity

	Agricultural output	Group level social inclusion
Agricultural output	1	0.682
Group level social inclusion	0.682	1

Conclusion

Most of the women found themselves in the position of membership in farmers' groups, even when their population in such groups was higher than that of men. Very few of them were given executive position in the groups' leaderships. Their mean annual level of production was 9,500kg. The women were socially included in various opportunities at the community and group levels. Agricultural output was not influenced by social inclusion of the women at community level, but farmers' groups' level social inclusion of the women influenced their agricultural activities and consequently, output positively. In conclusion, rural women were not highly excluded socially, but were socially included and the social inclusion positively affected their agricultural productivity.

Recommendations

1. Since women are the hub of agricultural production in Delta North Agricultural Zone of Delta State, their social inclusion should be encouraged more. This will give room for sustained agricultural production and employment of the rural women.
2. Women should be encouraged by giving them access to land inheritance. This will encourage them to increase their farm size.
3. More women should be given opportunities in the leadership of farmers' groups.

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