

Full Length Research Paper

Gender Access to and Control of Agricultural Resources in South Zone of Edo State, Nigeria

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Accepted 9th July, 2014

Inequalities limit ability to optimize production and productivity. This study assessed gender access to and control of agricultural resources among farmers in the south zone of Edo State, Nigeria. The sample for the study comprised two hundred (200) male and female heads of farming households. Sample was drawn through a multi-stage process using simple random sampling technique. A structured questionnaire was used for data collection. Data were analyzed using means, percentages and T-test was used to test the hypotheses. Findings show that male farmers had more access ($\bar{x}=33.65$) and control ($\bar{x} = 28.90$) of crop production resources than the women farmers access ($\bar{x}=28.57$), control ($\bar{x} = 23.87$) while women farmers had more access ($\bar{x}=26.24$) and control ($\bar{x} = 24.27$) of livestock production resources. Result of the T-test revealed that there was significant difference between men and women farmers' access ($T=2.545: p\leq .05$) and control ($T=3.362: p\leq .05$) of crop production resources. There was also a significant difference between men and women farmers' control ($T=2.058: p\leq .05$) over livestock production resources. Respondents had similar constraints, but the intensity was higher among the women farmers. The study concludes that women were highly disadvantaged. It recommends gender mainstreaming in community and governmental activities and policies.

Keywords: Gender, inequalities, Access, Control, Agricultural resources, Nigeria

INTRODUCTION

Nigerian agriculture is operated to a large extent by small scale farmers who are rural dwellers. Despite this, the country's food security and agricultural development depend on them (Ogunlela and Mukhtar, 2009). The scale of production is the product of the mirage of problems bedeviling the agricultural sector. These include low level and dearth of technology, poor state of rural infrastructures, low capital base, poor access to extension services and gender inequality.

Men and women farmers play important roles in agriculture throughout the world. Particularly striking is that women's contribution to farm work is as high as between 60% - 90% of the total farm task performed (Damisa et al., 2007). Women make up about 70 percent of the total workforce engaged in agricultural activities in the entire sub-saharan Africa (Sakyi-Dawson et al., 2012). In cases where changes in roles have been experienced over the years, corresponding access and control of resources could not be guaranteed (Kabeer, 2010). In the case of agriculture, the predominant occupation of rural dwellers, women contribute substantially to the food system of the developing nations, (Ajayi, 1997; Ani, 1999; Yahere, 2004). The contribution of women range from such task as land clearing, tilling, planting, weeding, fertilizer/manure application to harvesting, food processing, threshing, winnowing, milling, transportation and marketing as well as management of livestock.

Women's substantial contribution continues to be under-valued in conventional agricultural and economic analyses and policies, while men's contribution remains the central, often sole focus of attention (Fabiya et al., 2007). Inequalities in resource access tend limit women's capacity to ensure high agricultural productivity and household food security thus resulting in perpetuation of poverty. Gender inequality exists in access to valuable resources such as land, credit and agricultural inputs, technology, extension, training and services that would enhance their production capacity (Milcah, 2014). Men and women have different access to and control over assets and resources due to various socio-economic factors. These have consequences on their ability to access, control, and own human and material inputs. They are productive resources such as land, labour, finance, and social capital that enable people to create stable and productive lives. Gender inequalities arise from deep-rooted and durable social norms. Discriminatory legal and regulatory frameworks which tend to restrict opportunities to engage in economic and social engagements Kabeer, (2012).

Resource access connotes the right or authorization to benefit from a resource while control is the power to regulate and decide. According to Kabeer, (2012), barriers range from social norms that constrain women's choices and actions, to what should happen with the

resource or who gets it. Considering the proportion of Nigerian population that depend on agriculture for livelihood, access and control of resources required for agriculture become key issues in advancing the sector's performance.

In Edo State, and particularly in Edo South zone, men and women are involved in agriculture. Social norms and values are held which could affect men and women's access and control of agricultural production resources differently. Programmes are being implemented by the Edo State Agricultural Development Project (ADP) and other government organizations and NGOs to develop social capital and strengthen capacities of farmers to improve agricultural production, alleviate poverty and enhance food security. It cannot be categorically stated that the available assets and resources have been adequately accessed and controlled by the gender categories. This will have implications for productivity in agricultural enterprises consequently the living standards of the farming households. This study therefore assessed gender access to and control of agricultural resources in south zone of Edo State, Nigeria. Specifically, it described the socio-economic characteristics of the heads of farming households in South zone of Edo State, identified agricultural resources and farmers' access to and control over the resources and examined the constraints militating against farmers' access to and control over agricultural resources.

MATERIALS AND METHODS

Edo State is located in the South-South geo-political zone and south-west agro-ecological zone of Nigeria. The state lies approximately between latitude 05^o44N and 07^o34N of the equator and between longitude 06^o04E and 06^o43E. The state is predominantly tropical in nature and enjoys rainfall of 1500mm to 3000mm with 200 rainfall days (Olori, 1998). The state is bounded in the South by Delta State, in the North and North East by Kogi, in the West by Ondo and in the East by Anambra state. Edo state covers an area of 19794km sq and has a total population of 3,497,502. Edo State is made up of three zones; North, central and South.

Sample for the study was drawn through a multistage process involving the selection of Edo south agro-ecological zone, random selection of four (4) local government areas (LGAs) out of the seven (7) local government areas that make up the zone. This was followed by the random selection of two (2) communities from each LGA making a total of eight communities or villages. Twenty five (25) households were randomly selected per community to give a total of two hundred (200) farming household heads who constituted the respon-

dents.

Data were collected using a structured questionnaire which elicited information socio-economic characteristics of respondents, farmers' access and control of agricultural resources and factors limiting farmers' access to and control of resources. Data collected were analyzed using descriptive statistics involving percentages, frequencies and means. T-test for significance was used to determine the differences in dependent variables between the gender categories.

Access and control of resources were measured on three point Likert type scale: 1=no access/no control, 2=little access/little control and 3=high access /high control. Each section crop production, livestock, fisheries and general resources had 20, 15, 10 and 7 items respectively with minimum scores equal to the number of items and maximum of 60, 45, 30 and 21 respectively. Mean score ≥ 2.00 were significant. Constraints were measured using a 3-point scale: 1= not serious, 2=serious, 3= very serious.

RESULTS AND DISCUSSION

Socio-economic characteristics of respondents

Table 1 shows that majority (78.5%) of the respondents were middle aged, married (59.0%), with 1-4 dependants (55.5%), primary education (61.0%), farm size <2ha (70.5%), farming, experience of 11-15years (40.0%) and farm income of below N50000 per annum (53.0%) about \$310 (\$0.85/day). The proportions of male and female respondents are evenly distributed in the middle/active age categories (31-60years) are close. This is an indication that the household heads were active and there will always be farmers of different age ranges, thus, distribution was not skewed to the aged. This closely relate to FAO (1995) that most Nigerian women farmers are between 41–50years. Also, majority (84.0%) of the male household heads were married. This concurs with the findings of Nnadi and Akwiwu (2005) that married people were more disposed to farming. With respect to marital status, female household heads were evenly distributed: 29.7%, 32.4% and 35.1% as widowed separated and married respectively. This is an indication that females carry burdens meant for two thus the tendency to be vulnerable. Both male and female household heads had mostly 1-4 dependants (55.5% and 62.2%). This indicates that the respondents had moderate family sizes that they can easily cater for. Majority of female (54.0%) and male (62.5%) respondents had primary

education and both had no education (16.2% and 17.8%) and secondary and tertiary education of 29.7% and 19.6%. The results show that women were more educated and this contradicts Quisumbing (2003) and Smith *et al.* (2002) that women had low education. This is likely to positively affect their roles in agriculture. Majority (59.4%) of the female respondents had below one hectare of farm land while majority (63.2%) of the men had 1.1-2ha. Female was 43.2% and male was 39.3%. This shows that the female respondents had more farming experience which could have implications for accessing and controlling agricultural resources. The annual income, although generally low and about the same for male and female respondents, is lower for females. This could be attributed to small scale farming, low resource base are reflected in the characteristics which portends poverty and food insecurity.

Respondents' access to and control of agricultural resources

Table 2 shows that respondents' access to and control of agricultural resources were generally poor. Under the crop production resources women respondents only had access to water supply (mean = 2.08), while the male respondents had access to pipe borne water supply (mean = 2.23), capital (mean = 2.20), transport van (mean = 2.12), labour (mean = 2.12), land (mean = 2.13), fertilizer (mean = 2.04). This reveals that men farmers have access to more crop production agricultural resources than the women. Lack of access to land remains a major constraint for women farmers in Africa and land reform programmes have led almost exclusively to the transfer of land rights to male heads of households FAO (1990). Male farmers, having more access to labour could be as a result of fathers having greater influence of male children and been able to use them for farm labour, they could afford to hire. Despite significant contributions of women to economic development and the household, they have less access to land, capital, credit, technology and training than men do Olubunmi, (2008). Under the livestock and fishery production resources, respondents had little access to the resources because mean scores were less than 2.00. Under the general resources, both respondents had access to credit (female, mean=2.46) and (male, mean= 2.48). Females had more access to bank loans (mean = 2.14) than men. This conflicts with Olubunmi, (2008) that men had more of their requested loans granted than women. The finding shows that banks could have experienced high loan repayment rate among women than men.

Table 1: Socio-Economic Characteristics of Respondents

Variables	Female		Male		Total	
	Freq.	%	Freq.	%	Freq.	%
Age (years)						
30 and below	5	13.5	22	13.5	27	13.5
31-40	8	21.6	47	28.8	55	27.5
41-50	13	35.1	38	23.3	51	25.5
51-60	9	24.3	36	22.1	45	22.5
>60	2	5.4	20	12.3	22	11.0
Marital status:						
Single	-	-	-	-	-	-
Married	13	35.1	155	95.1	168	84.0
Widowed	11	29.7	7	4.3	18	9.0
Divorced	1	2.7	-	-	1	0.5
Separated	12	32.4	1	0.6	13	6.5
Family size range:						
1-4	23	62.2	88	54.0	111	55.5
5-8	13	35.1	65	39.9	78	39.0
9-12			10	6.1	10	5.0
>12	1	2.7			1	0.5
Education:						
No formal education	6	16.2	29	17.8	35	17.5
Primary	20	54.0	102	62.5	122	61.1
Secondary	6	16.2	17	10.4	23	11.5
NCE/OND and above	5	13.5	15	9.2	20	10.0
Farming experience:						
10 and below	14	37.8	45	27.6	59	29.5
11-15	16	43.2	64	39.3	80	40.0
16-20	6	16.2	16	9.8	22	11.0
>20	1	2.7	38	23.3	39	19.5
Farm size (ha)						
≤1ha	22	59.4	8	4.9	30	15.0
1.1-2ha	8	21.6	103	63.2	111	55.5
2.1-3ha	5	13.5	42	25.8	47	23.5
≥3ha	2	5.4	10	6.1	12	6.0
Annual income(₦161=1\$)						
50,000 and below	20	54.1	86	52.8	106	53.0
50,001-100,000	14	37.8	54	33.1	68	34.0
100,001-150,000	2	5.4	14	8.6	16	8.0
150,001-200,000	1	2.7	7	4.3	8	4.0
>200,000			2	1.2	2	1.0

Source: Field Survey, 2013.

Table 2: Respondents' access to and control of agricultural resources

Agricultural resources	ACCESS				CONTROL			
	Women Mean	SD	Men Mean	SD	Women Mean	SD	Men Mean	SD
Crop production resources:								
Water supply	2.08*	.98	2.23	.96	1.81	.91	2.13*	.95
Capital	1.95	.91	2.20	.93	1.54	.73	1.87	.90
Transporting vans	1.89	.97	2.12	.94	1.27	.51	1.91	.98
Labor	1.70	.81	2.12	.93	1.46	.61	1.86	.93
Land (farm)	1.54	.61	2.13	.91	1.32	.63	1.87	.93
Fertilizer	1.81	.84	2.04	.88	1.51	.84	1.75	.89
Improved seed varieties	1.41	.69	1.94	.94	1.22	.58	1.74	.91
Herbicides	1.49	.61	1.75	.75	1.16	.44	1.37	.60
Pesticides	1.43	.55	1.74	.74	1.14	.42	1.37	.61
Ridgers	1.46	.61	1.71	.77	1.08	.36	1.39	.67
Knapsack sprayers	1.46	.51	1.68	.71	1.00	.00	1.35	.72
Conveyors	1.49	.61	1.64	.66	1.05	.23	1.31	.58
Irrigation facilities	1.24	.49	1.59	.80	1.05	.23	1.25	.52
Ploughs	1.16	.44	1.38	.56	1.00	.31	1.15	.45
Harrows	1.16	.37	1.37	.54	1.05	.16	1.15	.45
Improved storage equipment	1.16	.37	1.31	.62	1.05	.33	1.15	.45
Tractor	1.03	.16	1.21	.56	1.11	.00	1.11	.35
Harvesters	1.05	.23	1.19	.89	1.05	.00	1.09	.35
Bulldozer	1.03	.16	1.17	.50	1.00	.99	1.03	.17
Seed planters	1.03	.16	1.12	.43	1.00	.99	1.03	.21
Livestock production resources:								
Cages	1.84	.99	1.48	.85	1.84	.98	1.47	.84
Feeds	1.86	1.00	1.48	.84	1.84	.99	1.45	.83
Livestock (pens)/housing	1.68	.94	1.50	.86	1.84	.99	1.44	.82
Pipe borne water supply	1.78	.98	1.48	.86	1.68	.94	1.45	.83
Silages and hays	1.84	.99	1.45	.83	1.70	.91	1.43	.79
Antibiotics/drugs	1.76	.95	1.47	.85	1.76	.93	1.42	.81
Capital	1.78	.95	1.45	.80	1.59	.80	1.34	.66
Feeding troughs	1.81	1.00	1.44	.82	1.65	.86	1.31	.64
Foraged grasses	1.70	.88	1.39	.73	1.41	.72	1.34	.73
Transportation van	1.51	.73	1.42	.79	1.30	.52	1.26	.59
Vaccines	1.57	.77	1.34	.66	1.24	.55	1.25	.56
Land	1.51	.65	1.34	.64	1.41	.76	1.13	.46
Slaughter house	1.38	.64	1.28	.61	1.19	.52	1.11	.44
Veterinary services	1.38	.55	1.17	.50	1.03	.16	1.07	.35
Slaughtering machines	1.05	.23	1.16	.51	1.05	.23	1.01	.11
Fishery resources:								
Fish feeds	1.76	.98	1.86	.99	1.68	.91	1.85	.99
Pond	1.73	.96	1.86	.99	1.62	.89	1.85	.99
Fingerlings	1.76	.98	1.85	.98	1.65	.92	1.82	.97
Water/sea/river /lime	1.76	.98	1.84	.98	1.46	.65	1.77	.93
Nets	1.70	.94	1.85	.99	1.38	.72	1.51	.75
Fish feed miller	1.68	.91	1.58	.74	1.57	.90	1.31	.61
Fertilizers	1.43	.60	1.60	.76	1.14	.42	1.29	.65
Boats/canoes	1.00	.00	1.26	.49	1.00	.00	1.06	.32
Deep freezer	1.07	.73	1.41	.64	1.41	.76	1.13	.46
Smoking kiln	1.49	.61	1.64	.66	1.05	.23	1.31	.58
General:								
Agricultural credit	2.46*	.69	2.48*	.71	2.24*	.76	2.30*	.79
Bank loans	2.14*	.75	1.99	.74	1.08	.36	1.21	.45
Infrastructure	1.81	.57	1.93	.51	1.08	.28	1.13	.35
Technology	1.65	.54	1.86	.59	1.08	.28	1.11	.37
Extension service	1.51	.69	1.36	.68	1.08	.28	1.07	.33
Government subsidy	1.19	.40	1.07	.30	1.03	.16	1.01	.08
Training and capacity building	1.00	.00	1.02	.13	1.00	.00	1.00	.00
Simple farm tools	2.32*		1.94*		2.95*		2.78*	

Sources: Field Survey Data, 2013.

*Access (mean \geq 2.00)*Control (mean \geq 2.00)

Table 3: Factors militating against respondents' access and control of agricultural resources

Constraints to resource access and control	Women		Men	
	Mean	Std. deviation	Mean	Std. deviation
Insufficient capital/fund	2.88*	.63	2.85*	.49
Bad government policies	2.87*	.63	2.75*	.64
Most resources are not available	2.76*	.00	2.62*	.17
Discriminated against/ I am not recognized as a breadwinner	2.73*	.16	1.90	.00
High cost of agricultural assets and resources	2.86*	.48	2.66*	.71
Influence of community value and norms	2.68*	.71	1.50	.75
Inadequate information/awareness	2.65*	.72	2.39*	.78
No right to land as important resource	2.61*	.46	1.65	.53
Low level of education/illiteracy	2.59*	.33	2.04*	.27
Family income is low	2.53*	.16	2.71*	.21
Poor implementation of programmes to empower us	2.45*	.33	2.41*	.16
Inadequate training/capacity to handle most resources	2.43*	.00	2.32*	.22
Inadequate agricultural Extension service	2.43*	.00	2.30*	.17
Government support does not carry me along	2.43*	.16	2.29*	.00
Cannot afford cost of labour for additional resources	2.42*	.16	2.21*	.00
Polygamy	2.42*	.00	2.39*	.08
Influence of conflicts	2.39*	.16	1.82	.00
Nobody to help me/connection	2.35*	.00	2.01*	.00
Natural disasters	2.34*	.00	2.18*	.00

Source: Field Survey Data, 2013.

*Serious (mean >2.00)

Table 2, further shows that under crop production, women farmers had low level of control over all the resources, while the men farmers had control only over capital (\bar{x} =2.13). Both men and women respondents had low control over livestock and fishery resources. The men had greater control than women in resources like money (\bar{x} : men = 2.66; women = 2.49), water supply (\bar{x} : men = 2.33; women = 2.05), and credit (\bar{x} : men = 2.30, women = 2.24)

Factors Militating Against Respondents' Access and Control of Agricultural Resources

Table 3 shows that all the factors militating against respondents access and control of agricultural resources

were very serious for women farmers such factor as insufficient funds (mean= 2.88), Bad government policies (mean=2.87), unavailability of most of the agricultural resources (mean=2.76), discrimination (mean=2.73), high cost (mean=2.86), unfavourable cultural values and norms (mean 2.68), less informed (mean = 2.65) for the female respondents. All the constraints were also serious for the men except discrimination (mean= 1.90), no right to land (mean= 1.65), influence of conflicts (mean = 2.39). This is an indication that female headed households were less involved at communal and programme levels, experienced shortages more, disadvantaged hence more vulnerable than the male headed households. Inadequate extension services could have contributed to lack of information, non-involvement and inability/lack of

Table 4: Test of difference in male and female farmers' access to Agricultural Resources

Agric tasks production activities	Access score			T-test
	Women	Men	Difference	
Crop production resources	28.57	33.65	-5.083	2.545*
Livestock resources	26.24	22.34	3.906	1.899
Fishery resources	12.81	13.70	-0.889	0.744

Source: Field Survey Data, 2013.

*Significant 5% level

Table 5: Test of difference in male and female farmers control to Agricultural Resources

Resources	Control score			T-test
	Women	Men	Difference	
Crop production resources	23.86	28.90	-5.031	3.362*
Livestock resources	24.27	20.91	3.356	2.058*
Fishery resources	11.49	12.45	-0.968	-1.021

Source: Field Survey Data, 2013

*Significant 5% level

skills required to handle most resources.

Test of Difference in Male and Female Farmers Access to Agricultural Resources

Table 4 shows that the mean score for farmers under crop production resources (mean=28.57) is lower than that of the male (mean=33.65). This implies that the male had more access to crop production resources than the female. However the t-test result ($T=2.545$; $p \leq .05$) is significant at 5% level. For livestock production resources the mean score of female farmers (mean=26.24) is higher than the male farmers (mean=22.34). This implies that the female farmers had more access to livestock production resources than the male farmers however the t-test result ($T=1.899$; $p > .05$) is not significant at 5% level. Under the fishery resources, the female score (mean=12.81) was lower than the males (mean=13.70), this implies that the male had more access to fishery resources than the female and the t-test result ($t = 0.7444$) is not significant at 5% level.

Test of Difference between Men and Women Farmers' Control over Agricultural Resources

Table 5 shows the test result of control over agricultural resources between male and female farmers. The mean score for females under crop production resources (mean=23.86) is lower than the males (mean=28.90). This implies that the male farmers had more control over crop production resources than the female. The t-test result ($T=3.362$; $p \leq .05$) is significant at 5% level. Under

the livestock production resources, the mean score of female (mean=24.27) is higher than for the males (mean=20.91) which implies that the female farmers had more control over livestock resources than the male farmers. The T-test result is also significant at 5% level. For the fishery resources, the mean score for female farmers (mean=11.49) is lower than the male farmers (mean=12.45); which implies that the male farmers had more control over fishery resources than the female farmers. However, the T-test result ($t = -1.021$) is not significant at 5% level.

CONCLUSION AND RECOMMENDATION

The study concludes that relevant productive resources were generally poorly accessed and controlled by the household heads. Also, women farmers have more challenges militating against their access to and control of agricultural resources attributed to negative societal values. Hence female household heads are more disadvantaged consequently vulnerable.

Based on the findings, the study recommends gender mainstreaming in policies and programmes at community and governmental levels to address gender inequalities based on identified priorities and constraints that are related to access and control of agricultural resources. Also sensitization on the need for inclusion of women in community activities and programmes and the need to drop societal value and norms that limit the potentials of the females such as discrimination, denial of rights to land and polygamy. Also provision and sourcing of information through communal efforts,

extension education by government and nongovernmental organizations should be encouraged to enhance access to and control of agricultural resources by both men and women.

REFERENCES

- Ajayi S (1997). Women in agriculture as a strategy for food security in Nigeria, *J. Rural Dev. Administ.*, XXIX: 11–7.
- Ani AO (2004). Women in Agriculture and Rural Development. In Ekiti state, *Nigerian J. Agric. Educ.*, 2: 112– 119.
- Damisa MA, Yohanna M (2007). 'Role of rural women in farm management decision making process: Ordered probit analysis', *World J. Agric. Sci.*; 3(4): p. 543, *IDOSI publication*.
- Ekong EE (2010). *Rural sociology: An introduction and analysis of rural Nigeria*. Dove Educational Publishers, Uyo. p143-154.
- F.A.O. (1990). *Women in Agriculture Development Series: Gender Issues in Rural Food Security in Developing Countries*, Rome, Italy.
- Fabiyi EF, Danladi BB, Akande KE, Mahmood Y (2007). 'Role of Women in Agricultural Development and their constraints', *Pak. J. Nutri.*; 6 (6): pp. 676-678.
- Kabeer N (2012). *Women's economic empowerment and inclusive growth: labour markets and enterprise development*. Working paper 2012/1. DFID and IDRC.
- Mgbada JU (2010). *Agricultural Extension: the Human Development Perspective* Computer edge publishers, Enugu.
- Milcah MP (2014): A Review On Gender Differences In Access To And Control Over Agricultural Resources In Farmer Families. *Sci. Park Res. J.* 1(44):22 May 2014
- Nnadi FN, Akwiwu CD (2008). Determinants of Youths' Participation in Rural Agriculture in Imo State, Nigeria. *J. Appl. Sci.*, 8:328-333.
- Ogunlela YA, Muktar AA (2009). Gender issues in agriculture and rural development in Nigeria: The Role of Women. *Humanit. Soc. Sci. J.* 4(1): pp.19-30.
- Olunmi IY (2008). *Gender Dimensions of Agriculture, Poverty, Nutrition and Food Security in Nigeria. Nigeria Strategy Support Program background paper*. No. NSSP 005 May 16, 2008. International Food Policy Research Institute.
- Quisumbing RA (2003). *Synthesis of earlier research on household decisions, gender, and development*. International Food Policy Research Institute publication at:<http://www.ifpri.org/sites/default/files/publications/genderbook.pdf>
- Saito K (1992). *Raising the Productivity of Women Farmers in Sub-Saharan, Africa (Vol. 1) Overview report*.
- Yahere M (2004). A study of women participation in fish food security and poverty alleviation in Lagos and Ogun States. In P.A Araoye (ed), *Proceedings of the 19th Annual Conference of the Fisheries Society of Nigeria, 29th-3rd December, Ilorin Kwara State . Pp. 167-178.*