Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.3, No.9, 2012

Women's accessibility to resources of agricultural productivity in Borno state, Nigeria.

Ojo*, C.O., Bila, Y. and Iheanacho, A. C.
Department of Agricultural Economics, Faculty of Agriculture, University of Maiduguri
Email: nickatie2003@yahoo.com Telephone number 08059217708

Abstract
This study set out to investigate the extent of women's accessibility to resources of agricultural productivity in Borno state, Nigeria. Data for the study were obtained from primary sources by the use of structured questionnaire. Multistage sampling technique was used to select 266 women farmers. The data obtained from the study was analyzed by the use of descriptive statistics. The results showed that the respondents had mean age of 39.5 years, mean farming experience of 17.2 years, while mean family size was 10 persons. Over 80% of the respondents were married. Furthermore, the findings showed that the respondents had the highest access to farm income, farm management decision making powers, farm land and off farm income. However, their access to extension services, education, cooperatives, production inputs and credit were limited. It was recommended among others that agricultural input distribution should be gender sensitive to afford women increased access to resources.
Key Words: Women, Access, Productive resources, Productivity

1. Introduction

Resources are the key considerations for rural livelihoods. Rural households negotiate their livelihoods by obtaining access to land, labour and market which leads to enhanced family wellbeing and sustainable use of resources (Valdivia and Gilles, 2001) There is however inequitable access to resources between men and women (which is biased towards men) in a mostly patriarchal entitlement system (Akanji, 1997). Women are, in fact, discriminated against by stereotypes which restrict them to a reproductive role, and are denied access to resources which could eventually enhance their social and economic contributions to the society. This is despite the fact that regardless of the level of development achieved by respective economies, women play a pivotal role in agriculture and in rural development (Prakash, 1999).

The significant contribution of women to food production and food security has implications on household poverty and welfare. As Squastavo and Christiaensen (2008) observed, agricultural productivity affects household consumption and hence, overall poverty and welfare. Poverty however, cannot be defined simply in terms of lacking access to sufficient food. It is also closely associated with a person's lack of access to productive assets, services and markets. Without access to these (as is usual with rural women farmers), it is unlikely that production and income earning capacities can be improved on a sustainable basis. Rural poverty is related to food insecurity, access to assets, services and markets: income-earning opportunities; and the organisational and institutional means for achieving those ends (Prakash, 1999). .

Many instances of the deprivation of women in terms of productive resources abound. For instance, the contribution of women to farm management decision making process is quite minimal going by the findings of Damisa and Yohanna (2007). Lack of access to land remains a major constraint for women in developing countries (Parveen, 2008). Similarly, women have less access to credit than men. Women receive only as low as 5 percent of agricultural loans in Burkina Faso to as high as 32 percent in Zimbabwe (Screekumar, 2001). Women in Nigeria constitute almost half of the population. However, their literacy rate is 56% compared to 72% for males and in certain states, female literacy, enrolment and achievement is much lower. For instance, in Sokoto State, female literacy rate is 15% compared to 59% for males (Emerging Issues, undated).

Adequate access to production resources among women farmers is needful if food production rates are to be enhanced in Nigeria. This is especially so given the increasing deficit in the food demand and supply gap in the country resulting from population growth exceeding food production growth. This study intends to investigate the extent of women's accessibility to resources of agricultural productivity in Borno state, Nigeria.

2. Methodology

The study was conducted in Borno state, Nigeria, which has 27 Local Government Areas (LGAs). Data for the study were obtained from primary sources. Multistage sampling technique was used to randomly select five LGAs from which 15 villages were randomly selected, three from each LGA. Out of the selected villages, 266

respondents were purposively selected to ensure that only women farmers were included in the study. Descriptive statistic techniques were used to analyse the data obtained. The techniques included frequency distribution, percentages, mean and standard deviations, minimum, maximum and mode which were used to analyse the socioeconomic characteristics of respondents. The likert scale was used to analyse extent of accessibility to resources. The scale was used by Parveen (2008) to measure women's access to productive resources in Bangladesh. The method involved the use of a scale where zero represented "no access"; 1 represented "low access"; 2, "medium access" and 3, "high access". The scale was used to create a rank order of level of access among the resources from the least to the highest access. This was achieved by calculating the mean access and the coefficient of variation (CV) and comparing with values ranging from 0 – 3 where the value were as defined earlier.

3. Results and discussion

3.1 Socioeconomic characteristics of respondents

The distribution of respondents' marital status, age, farming experience and family size were presented in Table 1. The results showed that majority (80.2%) of respondents were married. Marital status seemed to be an important social factor that enhanced access to farm land among women in the study area. This may not be unrelated to the patriarchal social system commonly obtainable in Africa where men have control over most production resources. This is similar to the finding in the study of Woldetensaye (2007) where it was observed that most women got access to land through marriage.

The age distribution in the study showed that over 85% of respondents were in the active and productive age (under 50 years). This has direct bearing on availability of able bodied labour force for primary production and ease of adoption of innovations. This is also the age when people were more likely to take risks to enhance their farm business. These characteristics have implication for agricultural production and productivity. The distribution of family size among respondents is presented on Table 2. The table shows a mean family size of 10 people ≠ 5 per household. This family size mainly comprised the woman, her husband, children and any other dependent(s).

Family size has implications for family labour. Minimum family size was one person, while maximum was 21 people with a modal family size of 6 people. As household size grows, more farm labour could be accessed by respondents, thus reducing the amount of money needed to be paid to hired labour. This is on the condition that householders were old enough to farm and be available to provide family labour.

The distribution of family size among respondents is presented on Table 1.The table shows a mean family size of 10 people ≠ 5 per household. This family size mainly comprised the woman, her husband, children and any other dependent(s). Family size has implications for family labour. Minimum family size was one person, while maximum was 21 people with a modal family size of 6 people. As household size grows, more farm labour could be accessed by respondents, thus reducing the amount of money needed to be paid to hired labour. This is on the condition that householders were old enough and available to provide family labour.

3.2 Respondents' accessibility to resources of agricultural productivity

In this study, access to resources is understood to mean the ability of rural farmers to get sixteen socioeconomic resources and accrue benefits from them. These resources include production resources such as land, family labour, hired labour, mechanization, fertilizer, insecticide, herbicide, improved seeds and credit. Other resources are socioeconomic factors including education, extension contact, farm management decision making powers, farm income, off –farm income, farming time, and membership of cooperatives. Data contained in Table 2 showed the extent of women's access to socioeconomic resources in the study area using the Likert scale. The rank order from the Likert scale showed that respondents had better access to the first six resources than all the other resources.

The better accessed resources were farm income with a mean score of: 1.92, farm decision making powers (mean score: 1.46), farm land (mean score: 1.32) as well as hired labour (mean score: 1.03), farming time (mean score: 1.12) and off farm income (mean score: 1.11). They were considered better accessed than the other resources because they all had mean scores that were above 1, though less than 2, indicating access between low and medium according to the specified Likert scale. Respondent's accesses to other resources were limited, and in some cases almost completely inaccessible. On the basis of the rank order these resources were family labour (0.94), education (0.80), extension contact (0.68), improved seed (0.67), mechanization (0.64), insecticide (0.51), herbicide (0.43), cooperatives (0.19), and credit (mean 0.09). The result showed therefore that most production resources were poorly accessed by respondents. Some of the least accessed resources in the study were farm specific production factors like hired labour, seeds, fertilizer, agricultural mechanization, insecticides, and herbicides. These are resources that directly affect agricultural output and have grave implications for agricultural productivity. Access to socioeconomic factors like credit, education, and extension services were also limited. This is similar to the findings of Parveen (2008), were women farmers were found to have low

access to most productive resources in Bangladesh.

Table 2 also showed increasing coefficients of variation (CV) along the ranks as the mean decreased. The coefficient of variation showed the mean deviation relative to the mean. As the rank decreased, the table showed that the deviation among the respondents continued to increase. This is because extent of access progressively decreases as access to resources progressively decreased, indicating that women's access to resources progressively decreased along the ranks. Generally, the inverse relationship between the mean access and CV was consistently observed. This outlook revealed a situation where the dichotomy between those who had access and others who had little or no access to resources continued to increase as the mean access to resources decreased among the respondents. The order in which the mean access to resources decreased produced a descending rank order in which mean access was reducing among the productive resources. The extent of women's access to the specified productive resources were presented in Table 2 on the basis of a descending rank order going from the most accessible (1) to the least accessible (16) resource. The extent of respondents' access to productive resources are described here on the basis of rank order

Most of the respondents (93.2%) had the opportunity and liberty to earn and use farm income indicating that the larger majority of respondents had access to farm income. Only 6.8% had no access. These were respondents whose husbands probably had total control over their farm earnings. Where income was substantial, respondents were empowered to have improved access to farm inputs, invest in their farm businesses and thus, enhance their agricultural productivity. Respondents (85.3%) were opportune to make various levels of farm management decisions on their farms. About 14% of respondents had no access to decision making powers. On the whole, respondents had mean access of 1.46 which was between low and medium access implying that the respondents were free to make some farm management decision. This is a higher access level than that observed by Ogunlela and Muktar (2009) who reported little or no access to decision making powers among women in Nigeria.

Decision making powers were usually limited by the land tenure system operated by the respondents. Where respondents were not the land owners, such land had to be handled according to the dictates of the owners, resulting in limited farm management decision making powers for women. Although 85% of the respondents had access to land, it was based on different tenure systems with majority having access to land by virtue of their marriage. Some respondents (15%) had no access to land. This is a common challenge among widowed and divorced women who had lost their access to their husband's lands. Such farmers were often very tenure insecure.

About 30% of respondents were deprived of time to spend on their farms. This was probably as a result of respondents' involvement with domestic chores which limited the time they could commit to their farms Culture and tradition in some areas curtailed some respondents' liberty to work outside of the home. The implication is that were family size is small or unavailable, such respondents have to hire labour to work on their farms, thus, increasing their cost. The mean access to farm time was 1.12, barely above 1, indicating low access to farming time. The implication of low access to farm time is that the time available for respondents' to effectively manage their farms is compromised, resulting in inefficiency and low agricultural output. It could also limit the type of crop grown.

Respondents' access to off farm income was low (1.11) with over 26% of respondents having no access to off farm income while the others had varying amounts of income. A number of factors like culture, limited time for off farm business activities and lack of capital could work against respondents accessing the opportunity of earning extra income from off farm activities. When other sources of income are accessed, it enhances access to physical inputs, hence, improving productivity.

Access to labour (hired and family) was low (1.03 and 0.94 respectively). Almost 40% of respondents had no access to hires labour. Access to family labour among respondents is constrained by small and or unavailable family labour during the cropping season. Family labour in some cultures was required to give priority attention to husbands' farms, thus, limiting women's access to family labour. About 46% (almost half) of the respondents had no access to family labour while 54% had various levels of access. Low access to labour limits the amount of work that can be done on women's farms and hence, limits labour efficiency and productivity of respondents.

About 57% of respondents had various levels of access to education while 43% of respondents had no access. The mean access to education among the respondents was 0.8 indicating limited access to education. Resulting from respondents' levels of access to education, it is probable that respondents' access to other resources may be limited and the drive for better livelihood from agriculture among household may be inhibited. Furthermore, respondents with low access to education were likely to reject innovations and farm inputs may not be accessed and used appropriately. They also had a tendency to be slow to comprehend credit acquisition procedures and extension information. The implication is that respondents' productivity and efficiency are limited. Mean access to extension was 0.68 which was quite low. Respondents' very low access to extension

was probably due to specified gender roles that limit their time and opportunity to involve themselves with extension activities Over half (52%) of the respondents had no opportunity to receive extension services since extension information was mostly directed towards male farmers and female extension agents were very limited in number. . This situation highlights the need for adequate and accessible extension services to enlighten women about more efficient agricultural practices that are indispensable for increased agricultural productivity.

Access to production inputs (seeds, fertilizer, insecticides and herbicides) in the study area was very limited with mean access to the listed inputs standing between 0.67 and 0.43 which showed that access to inputs was very low. Between 52.8 – 70.9% of respondents were not opportune to access the different inputs. The limited access to inputs among the respondents may have been influenced by the respondents' low access to extension, education, credit and cooperatives. This has grave consequences for agricultural efficiency and productivity among the respondents.

Table 2 indicated that over half (56.2%) of the respondents had no access to mechanization while about 43% of respondents had various levels of access. Access to mechanization in the study area was 0.59 revealing limited access to mechanization among the respondents. Majority or the respondents used traditional tools for production. This tends to slow down production activities and increase the need for hired labour. Over 88% of the respondents did not have access to cooperatives. This indicated a very high level of inaccessibility to cooperatives. This situation was further highlighted by the mean access of 0.19, a value close to zero, indicating an almost complete inaccessibility to cooperatives among the respondents. The low access of respondents to cooperatives deprives farmers of the opportunity of accessing production resources which enhance women's farm management capacity. The implication is that respondents' farm management capacity is limited, thus, resulting in limited agricultural efficiency and productivity.

Almost all the respondents (92%) did not have access to loans such that mean access was almost zero (0.09) indicating very limited access to credit among the respondents This finding differed from that of Olaleye *et al.* (2009) which reported that women farmers in Bosso LGA of Niger State had regular access to loans. This may be as a result of higher access to education and cooperatives among respondents in that study. Women's opportunity to obtain loans is reduced by limited ownership of suitable land. Access to institutional loans could further have been restricted by limited access to education, extension and cooperatives as well as some gender based limitations like limitations in mobility resulting from respondents' sociocultural background. Olagunju and Ajiboye (2009) observed that large land holdings, impressive net farm incomes, membership of cooperatives, and age were among the factors that determined willingness by banks to disburse loans to farmers. These explain the sparing access to loans among the respondents in the study. Limited access to credit limits access to physical inputs resulting in low agricultural productivity and resource efficiency of respondents.

4. Conclusion and recommendations

The investigation on the extent of respondents' accessibility to production resources revealed that respondents had a generally low access to agricultural productive resources. The findings give an indication that women farmers in rural areas are generally resource poor due to low accessibility to resources of agricultural productivity. This situation will tend to increase poverty and food insecurity, thus impeding household welfare. Women farmers who are major contributors to agricultural productivity especially with regard to food crop in Nigeria need to have increased accessibility to resources. This is necessitated by the need to increase productivity of food crop production as a means of bridging the food deficit arising from the food demand and supply gap.

It is recommended that agricultural resource distribution policies should be formulated to be gender sensitive so as to improve access to productive resources among women crop farmers; Furthermore, women need to be enlightened on the need to organize themselves to form functional and efficient cooperative societies with effective membership drive among farmers in the study areas to enhance access to credit, effective dissemination of extension information and inputs with a view to increasing resource use efficiency and farm income among women. Expansion of off farm income generating activities especially cottage businesses among women through special projects by means of the intervention of government, private sector, women organizations and other relevant bodies will also help improve women's access to resources.

References

Akanji, B. (1997). The gender implication of structural adjustment for women farmers and their households. In: P.K. Garba, B. Akanji and I . Isiugo (Eds), Women and economic reforms in Nigeria.. *WORDOC* , University of Ibadan

Damisa, M. A. & Yohanna, M. (2007). Role of rural women in farm management decision making process: ordered probit analysis. *World Journal of Agricultural Sciences 3 (4), 543 – 546.*

Emerging Issues (undated). Emerging Issues on Gender and Constitutional Reforms in Nigeria. Retrieved

November, 2009 from.http://www.gadanigeria.org/

Ogunlela, Y.I. & Mukhtar, A. A. (2009). Gender isues in Agriculture and Rural Development in Nigeria: The role of women. *Humanity & social sciences Journal 4(1), 19 – 30.*

Olagunju, F.I.and Ajiboye, A. (2010). Agricultural lending decision: A tobit regression analysis. *African Journal of Food Agriculture, Nutrition and Development,. 10 (5), 2515-2541*

Olaleye, R.S., Ibrahim, M. & Ojo, M.A. (2009). Probit Analysis of Women's Access to Agricultural Inputs in Bosso Local Government Area, Niger State, Nigeria. *Journal of Agricultural Extension,* 13(2), 21 - 33

Parveen, S. (2008). Access of rural women to productive resources as in Bangladesh: A pillar for promoting their empowerment. International Journal of Rural Studies (IJRS). 15 (1), 8 of 8

Prakash, D. (1999). Rural women, food security, and agricultural cooperatives. Paper produced for presentation and to serve as a theme paper at the 4th Asian-African International Conference on Women in Agricultural Cooperatives in Asia and Africa organised jointly by the ICA, AARRO, JA-Zenchu and IDACA at Tokyo, Japan. August 24-29**.**

Squastavo, S. & Christiaensen, F. A. (2008). The role of agriculture in reducing poverty in Tanzania: A household perspective from rural Kilimanjaro and Ruvuma. FAO.

Valdivia, C. & Gilles, J. (2001). Gender and Resource Management: Households and groups strategies and transitions. *Agriculture and human values, 18 (1), 5-9*

Woldetensaye, A. (2007). *Women's access to and control over land in the current land administration system in two Rural kebeles in Ada'a woreda of Oromia Region.* M. A. dissertation in Gender Studies, Institute of Gender Studies, Addis Ababa University in partial fulfillment of the requirement of Master of Arts in Gender Studies.

Table 1: Social factors of respondent farmers in the study area (n = 266)

Factors	Percentage	Mean ±SD	minimum	maximum	mode	
Marital status						
married	80.8					
single	1.5					
widowed	15.1					
divorced	2.6					
Fafarming experience (years)						
1-10	22.6	17.2 ≠ 8.7	1	70		15
11-20	59.5					
21-30	17.7					
31-40	3.7					
>40	1.5					
age						
<25	3.4	39.5≠10.2	16	80	35	
25-36	38.0					
37-48	41.7					
49-60	13.9					
>60	3.0					
Family size						
1-5	16.5	9.6 ≠ 4.5	1	21	6	
6-10	42.5					
11-15	27.8					
16-20	11.3					
21-25	0.4					

Source: Field survey, 2010

Table 2: Respondents' access to productive resources in the study area (n = 266)

Resources	High	Moderate	Low	Not at all	*Mean	CV	SD	Rank by mean values
Farm income	8.7	60.0	24.5	6.8	1.71	42	0.720	1
Decision making power	6.0	48.7	30.6	14.7	1.46	56	0.816	2
Farm Land	4.5	38.5	41.0	15.0	1.32	60	0.791	3
Farming Time	4.5	34.3	30.2	30.9	1.12	81	0.906	4
Off farm income	1.9	34.3	37.0	26.8	1.11	74	0.823	5
Hired Labor	6.0	30.9	23.4	39.6	1.03	95	0.974	6
Family labor	3.8	29.4	20.8	46.1	0.94	114	1.974	7
Education	4.9	12.8	39.2	43.0	0.80	106	0.846	8
Extension.	0.4	18.9	28.7	52.1	0.68	116	0.788	9
Seeds	2.3	15.5	29.4	52.8	0.67	122	0.818	10
Fertilizer	1.9	10.6	37.0	50.6	0.64	117	0.749	11
Mechanization	1.5	12.5	29.8	56.2	0.59	129	0.764	12
Insecticide	2.3	13.2	17.4	67.2	0.51	158	0.808	13
Herbicide	1.1	12.1	15.8	70.9	0.43	173	0.746	14
Cooperatives	1.5	4.5	5.3	88.7	0.19	305	0.579	15
Credit	0.4	0.8	6.8	92.0	0.09	402	0.362	16

* Mean values of items ranging from 0 – 3 where 0, 1, 2 and 3 indicate no access, low access, medium access and high access respectively

Source: Field Survey, 2010