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Full Length Research

Gender Differentials in Farm Activities and its Implication on Agricultural Development; A case study of Birnin-gwari LGA of Kaduna State, Nigeria.

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The study examined the gender differentials in farm activities and its implication on agricultural development. Secondary data from unpublished project survey in Birnin gwari LGA of Kaduna state were used for the paper. The data were previously collected by the researcher with aid of structured questionnaire using simple random sampling technique from one hundred (100) respondents in five (5) districts of Randagi, Kakangi, Doxa, Saulawa and Birnin-gwari. The data were analyse and presented using frequency distribution and percentages. Result shows that most of the respondents were male and married (78.75%), aged between 21 and 60 (88.75%), only few had formal education (35%), most had above 10 years farming experience (78.3%) and majority of the respondents cultivates above 5 hectares as farm size (62.5%). On major crops cultivated by these farmers' cereals toped (53.75%) followed by vegetables (31.25%), then legumes (8.75%) while roots and tubers were the least (6.25%) cultivated crops. On type of labour utilized by respondents, hired labour came top (100%), followed by family and community labour (86%) while mechanical power (14%) was the least patronized. Result of gender participation in farm activities as reported by the respondent's shows that the male gender dominated in 5 farm activities including land clearing (81.25%), tillage (86.25%), pesticide application (87.5%), fertilizer application (56.25%) and irrigation (62.5%) out of the 16 farm activities. On the other hand respondent's report shows that female gender dominated in 11 farm activities of planting (72.5%), transplanting (75%), manual weeding (93.75%), mulching (60%), stalking (83.75%), harvesting (72.5%), dehusking (93.75%), threshing (87.5%), winnowing (91.25%), processing (91.25%) and transporting to store (86.25%) out of the 16 farm activities. It was concluded that the female labour are more involved in farm activities than their male counter parts in the study area. Recommendation was made for Agricultural researchers, NGOs and development partner to help introduce labour saving technologies especially in farm activities carried out by female gender so as to reduce their labour burden.

Keywords: Gender, Differentials, Farm and Agricultural Development.

713.1**INTRODUCTION**

The efforts to promote gender equality in farm decision making has being on for a long time with several NGOs and organs of the United Nations being in the fore front to promote these initiative. The arguments has being that female are less involved in farm decisions making while their farm labour supply and participation has continually being on the increase. Labour contribution in agriculture across gender especially as pertaining farm decision making has always being a subject of controversy as data from research has being relayed upon to demand support towards the female gender. Agricultural research in this part of the world

indicates that over 70% labour supply during agricultural production is provided by male farmers while the female contribute 16% higher labour during post harvest operation (Umar and Luka, 2013). The male however contribute about 60- 82% to household farm decision as reported by several researchers (Adewuyi, Sowemimo, Shittu and Akinyemi, 2016; Adelodun and Fregene, 2016) clearly indicating that male dominate in both their labour contribution in agricultural production and farm decision making. However, this assertion is contradicted by other researchers who reported that female contribute higher labour in general farm operations while being short changed in farm decision making (Anselm and Taofeeq, 2010; Ajani and Igbokwe, 2011; Mstor and Idisi, 2014; Ismail, Rajeani, Idris and Akoge, 2015). According to SOFA and Doss (2011) the agricultural labour burden of rural women exceeds that of men and the contribution of women to agriculture and food production is significant but impossible to verify empirically.

2.0 Study Area and Methodology

The study was carried out in Birinin Gwari Local Government Area (LGA) of Kaduna State. The LGA is located at latitude 12˚20'N and longitude 9˚ 10' E at the western part of Kaduna State. It has a human population of 252,363 (NPC, 2006) and shares boundary with Katsina and Niger States. Major inhabitants are Gbagyi and Hausa who carry out farming as their major occupation.

Secondary data from field study conducted by Muhammed (2013) were used with researcher's consent for this work alongside literature obtained from journals, proceedings and working papers. The secondary data shows that information were collected from ten (10) male and ten (10) female farmers in each of the following districts of the LGA namely; Randagi, Kakangi, Doxa, Saulawa and Birnin-gwari giving a total of one hundred (100) respondents. The data was analyzed and present using descriptive statistical tools such as frequency and percentages.

3.0 LITERATURE REVIEW

3.1 Concept of Gender in Agriculture

The observed gender differential in agriculture especially that of Nigeria is reported to be in terms of land size, quality and farm input supply which according to Adamon and Adeleke (2015) shows endowment and structural disadvantages in female managed farms. The closing of this differential gap could increase the productivity of Agriculture; alleviate the living standard of female folks and that of the average farm household. According to Arturo, Eliana, Markus, Talip and Gbemisola (2013) gender differentials in agricultural production can be decomposed into explained and unexplained variation. Explained variation being the gender differential for various characteristics, or endowments, that could potentially explain the gap between male and female production. The endowment effects comprises household size, the dependency ratio, household consumption, number of fields managed, the proportion of farming parcels that are rented, and the number of hours dedicated to agricultural activities while unexplained variation of the differential is noted to be from differences in returns to the endowment characteristics.

The participation of female in agriculture is reported to span across activities such clearing of farm land, making of mounds, ridges, planting, staking of yams with bamboo, harvesting of crops, tree crops such as oil palm, mango, orange, pear, cashew nut and crop processing (Ajani and Igbokwe, 2015). Agricultural production operations, harvest and processing activities are shown to be carried out by female hence indicating no restrictive gender role for them.

The argument for and against promoting gender equality in farm decision making continue to wag on and is far from won in Sub-Sahara African including Nigeria and the implication of this differentials on Agricultural development is enormous. However, the pro equality researchers continue to point out this disparity on the farm but most times fail to be specific on which farm activities each gender dominates and the implication of the gender differentials across farm activities on agricultural development. This forms the basis for this research hence the following research questions; what is the socio-economic characteristics of farm labourers? What are the major crops cultivated by farmers in the study area? What type of labour is mostly utilized by the farmers? What differentials exist across gender in terms of farm activities?

4.0 RESULTS AND DISCUSSION

Table 1 presents the socio-economic characteristics of the respondents. The results shows that, majority of the farmers were married (88.75%), aged 41-60 years (71.25%), had no formal education (65.0%), 11-20 years of farming experience (60.8%) and cultivates above 5 hectares of farmland (62.5%). This result implies that respondents are responsible and possibly household heads as shown in their marital status, able bodied persons as shown in their age range meaning they are actively involved in farm work, have low level of formal education as shown in their high percentage with no formal education, have good years of experience in farming hence consider farming as serious business as shown in their length of farming and cultivated farm size. The result is in line with other studies carried out in this region of Nigeria particularly as

Table 1: Socio- economic characteristics of respondents

Variables	Frequency	Percentages
Marital status		
Married	71	88.75
Single	2	2.50
Divorced	7	8.75
Age		
40 and below	14	17.50
41-60	57	71.25
Above 60	9	11.25
Literacy level		
No formal education	52	65
Primary education	15	18.75
Secondary education	10	12.5
Tertiary education	3	3.75
Farm experience		
10 years and below	8	22.5
11-20 years	48	60.8
Above 20	14	17.5
Farm size		
Below 5 hectares	12	37.5
6-10 hectares	40	50
Above 11 hectares	10	12.5

Source: Field survey, 2013.

relating to their literacy level (Adamon and Adeleke, 2015). This make them inclined to accepting traditional cultural values that deny female folks of certain rights and put them perpetually in disadvantage in terms of access to land by size, quality and inputs. Furthermore, this put female under the control of the male, limit their decision making on the farm and their potential in farm management. The implication of this is that while female labour contribution on the farm may be large their participation in terms of decision making on the farm could be less contradicting submissions of Ismail, Rajeani, Idris and Akoge, (2015).

Table 2: Major crops cultivated by respondents

Variables	Frequency	Percentages
Cereal	43	53.75
Legumes	7	8.75
Roots and tubers	5	6.25
Vegetables	25	31.25

Source: Field survey, 2013

Table 2 shows major crops cultivated by the respondents in the study area with cereals being indicated as the main crop (53.75%), followed by vegetables (31.25%), legumes (8.75%) and roots and tubers (6.25%). This clearly point that crops (cereals and vegetables) requiring much cultural practices with post harvest operation are cultivated and these are possibly carried out by female folks. The result conforms to report of Ajani and Igbokwe (2011) in terms of female farm production activities.

Table 3 shows labour type utilized by respondents in the study area. It revealed that all the respondents patronized hired labour (100%), followed by family and community labour (86%) respectively and mechanical labour (14%) as the least patronized. This implies that large portion of these farmers operate at subsistence level relying mainly on human power for their agricultural production hence the more involvement of female in the labour required. The implication being further labour burden on the female folks as pointed out by SOFA and Doss (2011) in their report on role of women in agriculture.

Table 4 shows gender participation in different farm activities as collated from both gender in the study area. The result reveals that all farm activities were carried out by both genders in the study area. However,

Table 3: Labour types utilized by respondents

Variables	Frequency	Percentages
Family labour	86	86
Hired labour	100	100
Community labour	86	86
Mechanical power	14	14

Source: Field survey, 2013.

Table 4: Gender participation in different farm activities

Variables	Frequency		Percentages	
Farm activities	**Male**	**Female**	**Male**	**Female**
Land clearing	65	15	*81.25*	18.75
Tillage	69	11	*86.25*	13.75
Planting	22	58	27.5	*72.50*
Transplanting	20	60	25	*75.0*
Manual weeding	5	75	6.2	*93.75*
Pesticide application	70	10	*87.5*	12.75
Fertilizer application	45	35	*56.25*	43.75
Irrigation	50	30	*62.5*	37.5
Mulching	32	48	40	*60.0*
Stalking	13	67	16.25	*83.75*
Harvesting	22	58	27.5	*72.5*
Dehusking	5	75	6.25	*93.75*
Threshing	5	70	6.25	*87.5*
Winnowing	10	73	12.5	*91.25*
Processing	7	73	8.75	*91.25*
Transportation to store	7	11	13.75	*86.25*

Source: Field survey, 2013.

the male dominated in five (5) farm activities such as land clearing (81.25%), tillage (86.25%), pesticide application (87.5%), fertilizer application (56.25%) and irrigation (62.5%). The female dominated in 11 farm activities which include; planting (72.50%), transplanting (75.0%), manual weed control (93.75%), mulching (60.0%), stalking (83.75%), harvesting (72.5%), dehusking (93.75%), threshing (87.5%), winnowing (91.25%), processing (91.25%) and transporting to store (86.25%). This implies that female carry out more farm activities than the male which conforms to report of Umar and Luka (2013) that female contribution in farm is higher than that of men. Female participation in all farm activities further validates the report of Ajani and Igbokwe (2015) on the feminization of agricultural activities. The implication of this result is that the female gender is more involved in farm activities, involved at all levels of farm production and should not be short changed in farm decision making.

5.0 CONCLUSION

The study identified that large portion of the farmers had no formal education, cultivated mostly cereals and vegetables as their major crops and engaged more of hired labour for their farm production. Also, that the female gender were involved at all levels of farm production and dominated 11 out of the 16 identified crop production activities carried out by both gender in the study area. It was therefore concluded that majority of the farmers were illiterate and their gender roles been greatly affected.

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