Original Research Article

Gender Analysis of Labour Use Among Farmers in Cocoa Production Activities in Ekiti State, Nigeria

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Abstract

Nigerian agriculture is characterized by small holdings, resulting in most of its farming activities being carried out with the use of labour. This underscores the importance of labour an essential factor in farming. The study was designed to examine the gender use of labour among farmers in cocoa production activities in Ekiti State, Nigeria. Structured interview schedules were used to obtain primary data from 117 cocoa farmers. Descriptive statistics such as frequencies, percentages and means were used for the data analysis. The study revealed that the mean age for male was 54 years, and 52 years for female. Most (70.9%) of the female farmers had cocoa farms over 40 years old, while 31.6% of the males had farms in this category. Both male and female farmers had small cocoa farms of which 84% of the female had farm sizes of 1.0-1.9ha. The study revealed that males used self labour for most cocoa production activities, while females used sharecroppers. The use of hired labour was prominent for both genders in land preparation (52.3% for male and 29.0 % female). Males also had more use of family and communal labour than women in all the activities. The study concluded that males contributed more in physical labour activities.

Keywords: Gender, Labour, Farmers, Cocoa, Nigeria.

Introduction

Available evidence shows that 2.5 billion men and women, almost 40% of the world's population, depend on agriculture for their livelihood (Spore, 2009). Nigeria has a population of about 140 million people with men constituting about 50.4% and women 49.6% (NPC, 2006). Further statistics show that, in Nigeria, women are responsible for carrying out 70% of agricultural labour,

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50% of animal husbandry related activities and 60% of food processing activities (Annon, 2006). Rural women, more than their male counterparts, take the lead in agricultural activities, making up to 60-80 percent of the agricultural labour force. Nevertheless, their contributions to agriculture and rural development are seldom noticed (Ogunlela and Mukhtar 2009).

In Africa, cocoa production is dominated by four countries. Côte d'Ivoire and Ghana produce approximately 41 percent and 17 percent of the world output respectively. The other two important producers are Cameroon and Nigeria, each contributing approximately five percent of the world cocoa production (Gocowski and Oduwole, 2001). Nigeria's cocoa production declined rapidly from a peak of 300,000 tonnes in 1970/71 to just 100,000 tonnes in 1986/87, due to a combination of labour shortages and low producer prices. Nigeria's average yields range from 263-478 kg/ha (IITA/STCP, 2009)

In developing countries (such as Nigeria), labour is an essential factor in farming. This is because most of the farming activities are carried out with the use of labour. A shortage of rural labour was alluded to as a major constraint to expansion of the cocoa industry vis-a-vis the average age of the cocoa farmers being high (Gray, 2001). Poor development of the rural sector has however continued to contribute to the rural to urban drift of the rural populace resulting in labour scarcity in the rural areas thereby making farming activities to be left in the hands of the aged ones.

In Nigerian agriculture, hired labour is predominantly used. In fact, it accounts for 88% of the total labour used on farms (Okuneye, 2000). Apart from hired labour, the other types of labour that could be employed are family labour and cooperative labour. Gocowski and Oduwole (2001), in a study on labor practices in the cocoa sector of southwest Nigeria, confirmed that the availability of labour had been found to have impact on planting precision, better weed control, timely harvesting and crop processing. They further confirmed that 14% of the respondents cited labour constraints as reason for abandoned farms. This was further confirmed by Gray (2001), that shortage of rural labour was also a major constraint to expansion of the cocoa subsector in Nigeria. Average age of the cocoa farmer was also high.

Generally, the work that women do differs from that of men in many respects. Similarly, the incomes they earn and the hours they work are different (Muhammed-Lawal and Atte, 2006), hence the need for a gender-based study. A gender-based study analysis involves the disaggregation of quantitative data by gender. Gender Analysis is a tool for examining the differences between the roles that women and men play, the different levels of power they hold, their differing needs, constraints and opportunities, and the impact of these differences on their lives (Vibrant Communities, 2011). Across the developing world, labour demands have always been a critical issue in smallholder agriculture. Productivity can actually increase in this scenario if a process that provides everyone, particularly the poor and women, access to production resources especially labour needs so that they can develop their potentials. It is to this end that this study was conducted to examine the gender use of labour and other coping strategies in cocoa production. Specifically, the study

i. described the socio-economic and farming characteristics of the cocoa farmers;
ii. examined the cocoa farm management patterns; and
iii. identified the types of labour used by male and females cocoa farmers.

Research Methodology

The study was conducted in Ekiti State, Nigeria, which lies between latitudes 7^0 $15^{'}$ and 8^0 $7^{'}$ North of the equator, and longitudes 4^0 $47^{'}$ and 5^0 $45^{'}$ East of the Greenwich Meridian. It has a mean annual rainfall of about 1400mm, and a mean annual temperature of about 27^0C. Its vegetation ranges from the Rain forest in the south to the Guinea savannah in the North, with soil largely rich in organic minerals thereby making the state a major producer of both tree and food crops.

Primary data were generated using a structured questionnaire, and interview schedules. A multistage sampling procedure was employed for the study. In the first stage, three (3) Local Government Areas (LGAs) were purposely selected from the study area based on their volume of cocoa production in the State. i.e. LGAs with a minimum of 1,000 metric tonnes per annum. They were Ise-Orun (highest), Gbonyin and Ekiti South West. Three towns were randomly selected from the highest coca-producing LGA while two towns were selected from each of the remaining two LGAs making a total of seven towns/communities. Twenty cocoa farmers were randomly selected from each of the towns to make a sample size of 140 respondents comprising 90 males and 50 females. However, only 117 respondents' questionnaires were found fit for the purpose of this study. Data collected were analyzed using means, percentages and frequency distributions. The type of labour used by the respondents and other coping strategies in the cocoa production activities were measured at the nominal level.

Results and Discussion

Socio-Economic Characteristics of Respondents

The results on the socio-economic characteristics of the respondents are presented on Table 1. The findings revealed that majority (73.5%) of the respondents were male, while 26.5% were female. This signifies that males dominated the cocoa sector in the study area. Oyekale *et al.* (2009), on a study on cocoa vulnerability, also observed that cocoa farmers were predominantly male. The study also revealed the mean age for male to be 54 years while that of female was 52 years. This implies that both male and female cocoa farmers were getting aged. This is in line with Adeogun *et al*. (2010) that reported the average age for farmers across five cocoa producing states in Nigeria as 53. 6 years, and that the presence of older farmers on the farm would negatively impact on labour availability. The study further showed old cocoa farms for both genders, though females had older cocoa farms than males with means of 42 years and 35 years for female and male respectively. The study also confirmed that most female cocoa farms were inherited which could account for the older female cocoa farms.

According to Table 1, 50% of the respondents had no formal education at all. There was higher engagement of women in adult education (12.9%) as against that of male (5.8%), though no female

Table 1: Distribution of Respondents According to Socio-economic Characteristics

	Male		Female		All Respondents		
Characteristics	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**	**Mean**
Age of Farmers (years)							
≤ 40	25	29.1	7	22.5	32	27.4	
41 – 50	8	9.3	3	9.6	11	9.4	M-54
51 – 60	29	33.7	14	45.4	43	36.8	F- 52
61 – 70	11	12.8	7	22.5	18	15.4	
> 70	13	15.1	0	0.0	13	11.0	
Age of Cocoa Farm (years)							
≤ 20	24	27.9	6	19.3	30	25.7	M-35
21 – 40	25	29.1	3	9.7	28	23.9	F- 42
> 40	37	43.0	22	71.0	23	50.4	
Educational Status							
No formal Educ.	36	41.9	14	45.2	50	42.7	
Adult Educ.	5	5.8	4	12.9	9	7.7	
Primary Educ.	13	15.1	6	19.4	19	16.2	
Secondary Educ.	20	23.3	5	16.1	25	21.4	
Post-Secondary Educ.	12	13.9	2	6.5	14	12	
Farming Experience							
≤ 20	48	55.8	30	96.8	78	66.6	
21 – 40	22	25.6	1	3.2	23	19.7	
> 40	16	18.6	0	0	16	13.7	
Marital Status							
Single	11	12.8	3	9.7	14	12.0	
Married	65	75.6	10	32.3	75	64.1	
Widowed	10	11.6	14	45.2	24	20.5	
Divorced	0	0	4	12.8	4	3.4	
Farm Size (ha)							
< 2.5	43	50.0	30	96.9	73	62.4	M-2.5
2.5 – 5	32	37.2	1	3.1	33	28.2	F-1.5
> 5	11	12.8	0	0	11	9.4	
Household Size							
1– 6	43	50.0	30	96.7	73	62.4	
7 – 12	32	37.2	1	3.3	33	28.2	
≥13	11	12.8	0	0	11	9.4	
Output in Bags (65kg)							
Below 7	34	39.5	24	77.4	58	49.6	M – 8
7 – 13	39	45.3	7	22.6	46	39.3	F – 7
Greater than 13	13	15.2	0	0	13	11.1	
Total	**86**	**100**	**31**	**100**	**117**	**100**	

Source: Field survey, 2014

had higher than NCE/OND. The low level of enrollment in formal education has implication for diffusion of innovations in extension. Oluwatayo (2009) asserted that improving education and disseminating knowledge are important policy measures for natural resource management initiatives for which agriculture is not exempted. Furthermore, the study reveals that most (64.1%) of the respondents were married, none of the male respondents was divorced, while 12.9% of the females were divorced. This could be as a result of the fact that most of the male cocoa farmers had more than one wife. The nature of the marital status of males could have predisposed them to more use of family labour than the women. The higher widowhood status of women (45.2%) reveals that most women inherited their husbands cocoa farms or worked together with their husbands as shown in Table 1. The high proportion of married respondents in both genders shows that more members of farm family were likely going to be available for cocoa production in the study area. Moreover, the average person per household from the study was 6. This confirms Balogun (2011) that average size of cocoa farmers household was six, and that farmers had the tendency to bear as many children as possible for the opportunity to use them as sources of family labour.

Households headed by male were larger than those of their female counterparts. The study further revealed that, though both genders operated small farm sizes, females had lower farm sizes and outputs than their male counterparts with averages of 2.5ha and 1.5ha in farm size, and 8 and 7 bags of cocoa as output for male and female respectively. This confirms the study carried out by Gockowski and Oduwole (2001) on cocoa-producing households in South West Nigeria that the mean cocoa farm was 4.7ha with the sample distribution positively skewed which implied a potential growth versus equity tradeoffs for development interventions through the cocoa sector and that a significantly larger proportion of female-headed cocoa farms were in the small size class of producers.

Respondents' Distribution by how Cocoa Farms were Managed

As revealed in Table 2, more male farmers (79.1%) managed their cocoa farm by themselves while only 19.4% of the female respondents managed it by self. The use of sharecroppers was

Table 2: Respondents' distribution by how Cocoa farms were managed

Cocoa farm management	Male		Female		All Respondents	
	Frequency	%	Frequency	%	Frequency	%
Self	68	79.1	6	19.4	74	63.2
Lease	3	3.5	10	32.3	13	11.1
Sharecropping	6	7.0	14	45.2	20	17.1
Family	6	7.0	1	3.23	7	6.0
Others	3	3.5	0	0	3	2.6
Total	86	100.0	31	100.0	117	100.0

Source: Field Survey, 2014

higher (45.2%) for female than male farmers (7%). Very few of the respondents managed their farm by either leasing to another farmer or giving to another relative to manage. Females however had more lease agreement (32.3%) than males (3.5%). The study showed that women made use of secondary arrangements in the management of their cocoa farms. These management styles ultimately have effects on labour use on the farms, and on their profitability.

Ownership status of Cocoa Farm

According to Table 3, 47.7% men and 19.4 % women owned the cocoa farm themselves. Most (71%) of the female respondents had cocoa farms which belonged to their spouses, while no male was seen to be managing cocoa farms which belonged to their spouses. The study equally showed that no female was managing family farm while 17.4% of male did. This could be as a result of the inheritance structure in the country where much economic resources are not allocated to females as inheritance in a bid to retain such resources within the family. This is in accordance with Ogunlela and Mukhtar (2009) who reported that different rules, norms and values govern the gender division of labour and the gender distribution of resources, responsibilities, agency and power. It can be said from the study that most cocoa farms were owned and managed by men.

Table 3: Respondents' distribution by ownership status

Ownership Status	Male		Female		All Respondents	
	Frequency	%	Frequency	%	Frequency	%
Self	41	47.7	6	19.4	47	40.2
Parents	18	20.9	3	9.6	21	17.9
Another Farmer	12	14.0	0	0	12	10.3
Spouse	0	0	22	71.0	22	18.8
Family Farm	15	17.4	0	0	15	12.8
Total	86	100.0	31	100.0	117	100.0

Source: Field Survey, 2012

Labour Use by Men and Women in Cocoa Production Activities

Table 4 shows the labour use and other coping strategies adopted for cocoa production activities in the study area. They were self labour (SL), family labour (FL), hired labour (HL), communal labour (CL), sharecroppers (SC) and use of agrochemicals (UA).

The Table revealed that men adopted the use of self labour for most cocoa production activities except for transportation of cocoa beans within the farms. Only 24.4% of the male respondents transported the cocoa beans within the farms by themselves while 19.4% of the female respondents did. The use of hired labour was prominent for both men and women in bush clearing and land preparation with 52.3% for male and 29.0 % female. There was greater use of self labour in weeding and pruning activities with 65.1% for males and 9.7 % for females. The high use of hired labour for both genders implies that the active labour force available for cocoa activities was weak because of the aged people involved. This is further corroborated by Okuneye (2000) where he

Table 4. Labour Use and Coping Strategies by the male (n=86) and female (n=37) Farmers in Cocoa Production Activities (%)

		Labour use/Coping Strategy							
Cocoa Production Activities		**SL**	**FL**	**HL**	**CL**	**UA**	**ME**	**SC**	**NI**
Choosing location for farm site	Male	65.1	29.1	3.5	0.0	0.0	0.0	3.5	5.8
	Female	58.1	16.1	0.0	0.0	0.0	0.0	38.7	12.9
Bush clearing and land	Male	54.7	20.9	52.3	0.0	2.3	0.0	3.5	2.3
preparation	Female	9.7	3.2	29.0	0.0	0.0	0.0	67.7	0.0
Securing planting materials	Male	76.7	14.0	0.0	7.0	0.0	0.0	3.5	5.8
	Female	32.3	3.2	0.0	0.0	0.0	0.0	67.7	0.0
Raising cocoa seedlings	Male	80.2	31.4	3.5	7.0	0.0	0.0	3.5	2.3
nursery	Female	22.6	3.2	22.6	0.0	0.0	0.0	67.7	0.0
Planting of cocoa seedlings	Male	76.7	30.2	19.8	7.0	0.0	0.0	3.5	5.8
	Female	22.6	9.7	12.9	0.0	0.0	0.0	67.7	9.7
Sourcing for farm inputs	Male	89.5	7.0	0.0	7.0	0.0	0.0	7.0	0.0
	Female	22.6	3.2	0.0	0.0	0.0	0.0	77.4	0.0
Weeding and pruning	Male	65.1	31.4	60.5	7.0	9.3	2.3	3.5	0.0
	Female	9.7	9.7	12.9	0.0	3.2	0.0	77.4	0.0
Spraying against pests &	Male	73.3	24.4	53.5	0.0	0.0	0.0	9.3	0.0
diseases	Female	0.0	3.2	22.6	0.0	0.0	0.0	48.4	0.0
Harvesting of ripped cocoa	Male	73.3	34.9	65.1	10.5	0.0	0.0	3.5	0.0
pods	Female	3.2	9.7	22.6	0.0	0.0	0.0	0	0.0
Breaking of cocoa pods and	Male	73.3	48.8	58.1	17.4	0.0	0.0	3.5	0.0
scooping of cocoa beans	Female	9.7	9.7	22.6	0.0	0.0	0.0	77.4	0.0
Sourcing fund for farm	Male	73.3	31.4	80.2	20.9	0.0	0.0	3.5	0.0
operations	Female	22.6	9.7	9.7	0.0	0.0	0.0	77.4	0.0
Fermentation and checking	Male	96.5	57.0	0.0	0.0	0.0	0.0	3.5	0.0
of cocoa beans	Female	22.6	9.7	0.0	0.0	0.0	0.0	77.4	0.0
Transportation of cocoa	Male	24.4	65.1	60.5	3.5	0.0	7.0	3.5	0.0
beans within farm	Female	19.4	9.7	16.1	0.0	0.0	0.0	77.4	0.0
Sun-drying and removal of	Male	96.5	66.3	0.0	0.0	0.0	0.0	3.5	0.0
bad cocoa beans	Female	22.6	22.6	0.0	0.0	0.0	0.0	48.4	0.0
Bagging/storage of dried	Male	96.5	67.4	0.0	0.0	0.0	0.0	3.5	0.0
cocoa beans	Female	32.3	22.6	0.0	0.0	0.0	0.0	67.7	0.0
Marketing of cocoa	Male	96.5	18.6	0.0	0.0	0.0	0.0	3.5	0.0
	Female	61.3	9.7	0.0	0.0	0.0	0.0	67.7	0.0
Sourcing fund for farm	Male	89.5	16.3	0.0	0.0	0.0	0.0	3.5	0.0
operations	Female	32.3	9.7	0.0	0.0	0.0	0.0	67.7	0.0
Hiring labour and	Male	96.5	4.7	0.0	0.0	0.0	0.0	3.5	0.0
determining wages	Female	22.6	9.7	0.0	0.0	0.0	0.0	48.4	0.0
Expansion of household	Male	70.9	34.9	15.1	0.0	0.0	0.0	2.3	15.1
cocoa farm	Female	29.0	16.1	9.7	0.0	0.0	0.0	32.3	0.0
Replacement of dead cocoa	Male	84.9	24.4	17.4	0.0	0.0	0.0	3.5	2.3
stands	Female	22.6	9.7	16.1	0.0	0.0	0.0	38.7	0.0

Source: Field Survey, 2012.
Self labour =SL; Family Labour =FL; Hired Labour =HL; Communal Labour =CL;
Use of Agro-chemicals =UA; Mechanized Farming/Equipment =ME; Sharecropper =SC;
Not at all Involved =NI.

stated that hired labour is predominantly used in Nigerian agriculture, and that it carries 88% of the total labour used on farm activities such as spraying against pests and diseases (53.5% Male and 22.6 % Female), harvesting of ripe cocoa pods (65.1% Male and 12.9 % Female), breaking of cocoa pods (58.1% Male and 22.6 % Female), scooping of cocoa seeds from pods (80.23% Male and 22.6 % Female) and transportation of cocoa beans within the farm (60.5.3% Male and 16.5 % Female). The least adopted strategies for both male and female were the use of agro-chemicals and mechanized farming/equipment. Only men had 7.0% use of Mechanized/equipment because of the use of motorcycles in transportation.

The study equally revealed that women adopted the use of sharecropping for most of the cocoa production activities. This could also mean a low income for female cocoa farmers because they will have to share their profit with their sharecroppers. The activities where women adopted the use of self labour most were transportation (22.6%), scooping of cocoa beans (22.6%), fermentation of cocoa beans (32.3%), bagging of beans (32.3%) and sourcing of funds (32.3%). Overall, women adopted the use sharecroppers while men adopted the use of self labour and family labour for their cocoa production activities. This is line with Gockowski and Oduwole (2001) that tenant sharecropping was the most common labor type used overall, and was reported by 70% of the producers interviewed. The practice of providing a child worker as a condition of the sharecrop agreement was anecdotally reported by some of the survey team members.

The study further revealed that communal labour was not employed by the female farmers which showed the loss of traditional or customary values in assisting community members in economic ventures. However, male farmers enjoyed the use of communal labour for some activities such as weeding and pruning, harvesting and breaking of pods. The use of agrochemicals especially for weeds was low for both genders, but was higher for males (9.3%) than females (3.2%). None of the female respondents indicated the use of machines in all the activities while only 2.3% of males made use of it in weeding and pruning as well as in transport of cocoa beans (7.0%). It can thus be seen that female respondents were constrained in the use of agrochemicals and machines for cocoa production which still further confirmed that females' access to production resources was low as compared to that of men as discussed earlier in the study.

It can therefore be said that the introduction of improved technologies (like mechanization and herbicide use) unequivocally reduced labour use. This will consequently reduce the stress of searching for farm labour especially during the on-season.

Table 4 also shows that the use of family labour was higher for all activities except for hiring labourers and determining wages, which was 4.7% for males and 9.7% for females. This implies that the family members decided more for women on whom to employ, and how much to be paid the worker(s). This confirms the report of Ogunlela and Mukhtar (2009) that women had minimal or no part in the decision-making process regarding agricultural development. Family labour was used by both genders for all the cocoa production activities. It was highest for bagging and storage of dried cocoa beans. It was 67.4% for males and 22.6% for females. This could be attributed to

the fact that everybody in the family had to keep watch over the produce in order to ensure its security. Family labour was equally used for activities like transportation (65.1% for males, 9.7% for females), and sundrying (66.3 for males and 22.6 for females). The high usage of family labour can equally explain for the large family size as seen earlier in the study and as confirmed by Balogun (2011). Also Gockowski and Oduwole (2000) indicated that family labour, specifically child labour, producer's own labour, and spouse's labour were all more frequently reported among low productivity producers. The implication is that increasing the farm size of cocoa farms may contribute to lower of family labour especially that of children and thereby affording them better educational opportunities. Also, Oyekale *et al.* (2009), reported that family labour has impact on cocoa production.

Male farmers employed more of self labour in all cocoa production activities than females except in breaking of cocoa pods when they employed hired labour. (80.2%). Female farmers on the other hand employed more of sharecroppers in all production activities. Their personal involvement were seen in nursery activities, sourcing of planting materials, scooping of cocoa beans, fermentation, sun-drying of cocoa beans, hiring of labourers, marketing and replacement of cocoa dead cocoa stands all at low levels: 22.6%, 32.3%, 9.7%, 22.6%, 22.6%, 22.6%, 61.3% and 22.6% respectively. The activity with the highest personal involvement for females was cocoa marketing (61.3%), followed by bagging and storage, sourcing for funds and securing planting materials with 32.3% each. and expansion of cocoa farm (29.0%). Aside from the use of sharecroppers, females also used hired labour mostly in bush clearing (29.0%), raising cocoa seedling, sourcing for inputs and breaking of pods, each with 22.6%. Other activities where hired labour was used included transportation, and replacement of cocoa trees, each with 16.1%.

Conclusion

In conclusion, the study revealed that cocoa farming is male-dominated and majority of male cocoa farmers utilized self labour while their female counterpart employed sharecroppers and hired labour for their cocoa production activities. Females were less predisposed to the use of agrochemicals and machines than their male counterparts. Female farmers were also not privileged to take advantage of communal labour as were their male counterparts. They were also marginalized in the use of family labour for all their activities. As a result of these findings, the profit of female cocoa farmers will likely be lower than that of the male counterparts. However further studies can be conducted in the area of time use for the various activities in cocoa production.

Recommendations

Cocoa farmers should embrace the use of agrochemicals and machines such as to reduce their heavy reliance on hired labour which at times could be more expensive and scarce. Female farmers should be assisted to have equal access to communal and family labour as their male counterparts

have, and should be allowed to participate more in decision-making processes especially in the allocation of resources.

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