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Gender, Social Capital and Agricultural Productivity among Cassava Farmers in Oyo State, Nigeria.

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Abstract
Government efforts of to improve Nigeria's cassava productivity have been without appreciable impact. The unique social capital dimensions which specifically determine productivity for male and female farmers have not been clearly elucidated in the literature. Therefore, this study examined the effect of social capital on the gender dimensions of agricultural productivity among cassava farmers in Oyo state, Nigeria. A multi-stage sampling procedure was employed to select 180 cassava farmers using well-structured questionnaires. Data collected was analyzed using descriptive statistics, Total Factor Productivity and Ordinary Least Squares regression. The results show that 76% of the cassava farmers were male. Male farmers had a higher density of membership (56.2%) than female farmers. Cash contributions, decision making, labour contribution and heterogeneity showed similar patterns between the male and female farmers. The farmers were all productive with mean productivity of 0.189kg/? . Social capital influenced agricultural productivity of both male and female cassava farmers in different dimensions. Density of membership and cash contribution influenced the agricultural productivity of female farmers while meeting attendance and heterogeneity influenced the agricultural productivity of male farmers. Thus for increased cassava productivity, male farmers need to belong to more homogenous associations while female farmers need increased membership in more associations.

Keywords: Agricultural productivity, Cassava, Farmer, Gender, Social capital.

Introduction
Globally, cassava is an important crop for both food and feed. It is the fourth most important source of calories in the tropics, consumed by over 700 million people on a daily basis in Africa, Asia, and Latin America, and cultivated mainly on marginal lands by smallholders (FAO, 2013). In Africa, which represents roughly half of world cassava production but where 90% is used for food, cassava is an essential part of the diet for the poor. Cassava has evolved into a multipurpose crop that responds to the challenge of poverty, food security and even climate change in developing countries, particularly in sub Saharan Africa.

Annual global production stands at about 276million metric tons (MT) (FAO, 2018). Nigeria is the world's largest producer of cassava with annual production of about 59.4 million MT (FAO, 2018) representing about 22% of global production. The total area harvested in 2017 was 6.79 million ha and average yield of 8.75 tons/ha (FAO, 2018). Cassava production in Nigeria has experienced modest increases since the early 1960s although, as evidenced from Figure 1, the increases have been due to increased land area planted to cassava rather than increased cassava yield. Cassava production has been limited due to the problem of low agricultural productivity. Yield of the crop has experienced a decline particularly once after year 2010 (see Figure 2). Several reasons have been adduced for the declining productivity

including inadequate research and development, inadequate extension services to farmers, lack of farmer education, inadequate rural infrastructures, poorly targeted government programs and inadequate credit (Ogunlela and Mukhtar 2009; Balogun *et al*. 2018; Ogunleye, 2018). The Nigerian government has made several efforts to improve the cassava yield through several interventions including; the Presidential Initiatives on Cassava, the Cassava Multiplication Programme (CMP), the Root and Tuber Expansion Programme (RTEP). Despite the several efforts to improve cassava productivity

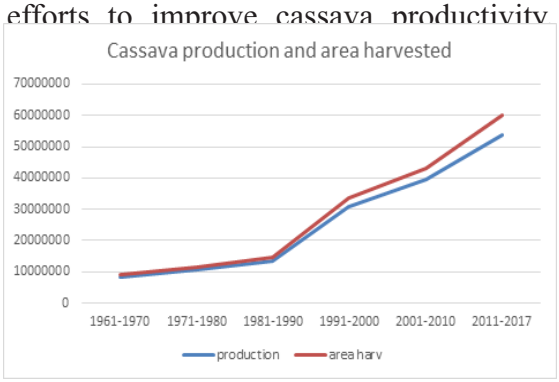

Figure 1 showing cassava production and area harvested (1961-2017)

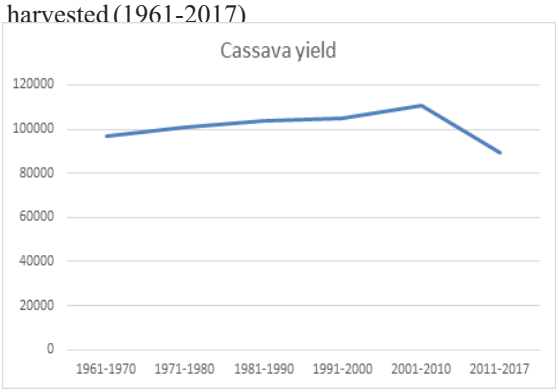

Figure 2 showing cassava yield (1961-2017) FAO (2018)

As evidenced by the cassava programmes, most efforts of government have emphasized increase in land area cultivated as the major strategy to improve productivity. An important concept which the government has not explored in solving the productivity puzzle of Nigeria's cassava sub sector is that of gender. Gender responsibilities and differences have not been clearly defined for the purpose of channeling development incentives to farmers. Gender is responsible for *segregation of roles and responsibilities between males and females in the society (*Oláh *et al.,* 2014). *Such segregations* result in differences in the way men and women order priorities, view concerns and ultimately make management decision regarding the use of natural resources (Oláh *et al.,* 2018; Kebede *et al.,* 2014) which in turn affect their productivity levels. For instance, men dominate the use of natural resources for agriculture and other economic activities in most regions of the world (UNEP/UN Women/PBSO/ UNDP, 2013). On the contrary, women manage smaller and less profitable businesses due primarily to their limited access to productive assets (Ajani and Igbokwe, 2013). Asset ownership is related to agricultural productivity, hence, the asset-deprived women farmers are more likely to have low agricultural productivity and consequently, be poorer than male farmers (Eboh *et al.,* 2006; Ayoola, 2009).

Access to assets, especially with respect to human, financial and natural assets, is usually out of reach for most asset-deprived women farmers. The social capital asset however, is intangible and creates the opportunity of access even for poor women

farmers. Social capital refers to the collective value of all social networks, that is, who people know and the inclinations that arise from these networks to do things for each other; otherwise called norms of reciprocity (Putnam, 2000). It refers to the people known to a person/farmer and how they do things for one another. Social capital has been found to be of great importance to agricultural development, having major impact technology adoption, improves the efficiency of rural development programmes and the outcome of activities that affect the poor (Silici, 2011; Yusuf, 2008). Social capital has been found to be positively related to agricultural productivity of the farming households (Balogun *et al*. 2018). For instance, most women farmers lack collateral to obtain credit for their agricultural activities with consequent negative effects on their productivity. By joining associations, the collateral security required by financial institutions is provided for the women farmers, credit can thus be obtained and agricultural productivity expectedly increases. Hence, association membership is social capital (Balogun *et al*. 2018).

The determinants of agricultural productivity have been explored (Balogun *et al*. 2018; Komolafe and Adeoti, 2018; Ogunleye, 2018) however, the literature is not conclusive on the factors that uniquely determine the agricultural productivity of male farmers which are expected to differ from that of female farmers (Quisimbing *et al*, 2014). Further, the differences in roles of males and females in the society suggest that different forms of social capital may apply to either gender. Although, social capital effect on agricultural productivity has been explored (Balogun *et al*. 2018; Komolafe and Adeoti, 2018), how different social capital dimensions uniquely affect male and female agricultural productivity levels are still limited. Given that social capital is vital for improving agricultural productivity of asset poor farmers and that different social capital dimensions can determine productivity in male and female farmers, this study investigates the gender dimensions of agricultural productivity and social capital among cassava farmers in Oyo state, Nigeria. Firstly, the socioeconomic and demographic characteristics of the cassava farmers were described. Next, the level of social capital among cassava farmers were estimated and profiled. The level of productivity of the cassava farmers were also estimated and profiled. Lastly, the effect of social capital on the agricultural productivity of male and female cassava farmers were estimated.

Materials and Methods

Study area and sampling

The study was carried out in Oyo state, a south western state of Nigeria. Oyo state covers a total land area of 28,454km^2 and lies on latitude 8.00^0 N and longitude 4.00^0 E. The state has an equatorial climate with dry and wet seasons with relatively high humidity. The dry season lasts from November to March while the wet season is between April and October. Average daily temperature ranges between 25^{0}C (77.0^{0}F) and 35^{0}C (95.0^{0}F), almost throughout the year. The vegetation pattern of Oyo state is mainly rainforest, in the south and guinea savannah in the north. The thick forests in the south give way to grassland interspersed with trees in the north. The climate in the state favours the cultivation of crops like maize, yam, cassava, millet, rice, plantain, cocoa tree, palm tree and cashew. The state consists of 5 geographical zones under

which the 33 local government areas. The geographical zones include: Ibadan, Oke-ogun, Ogbomoso, Oyo and Ibarapa.

Primary data was used for this study and collected through a multistage sampling procedure, using well-structured questionnaires. The first stage was the random selection of three out of five geographical zones of the state. The selected geographical zones were: Oyo, Ibadan and Ogbomoso. The second stage involved the random selection of one local government area from each selected agricultural zone in the state; Afijio Local Government from Oyo, Iddo Local Government from Ibadan and Ogo Oluwa Local Government from Ogbomoso. The third stage was the random selection of three wards from each local government area while the fourth stage was the random selection of one village from each selected ward. The fifth and final stage was the random selection of cassava farmers from each of the selected villages, in proportion to their size. A total of 180 cassava farmers were surveyed and used for the analyses.

Data analysis

Data were analyzed using descriptive and inferential statistics.

- The socio-economic characteristics of cassava farmers were profiled using descriptive statistics. The Total Factor Productivity (TFP) analysis was used to estimate the productivity of cassava farmers in the study area while Ordinary Least Square (OLS) regression method was used to analyze the effects of social capital on the productivity of male and female cassava farmers.

- The social capital dimensions considered included the indices of *meeting attendance, density of membership, h**eterogeneity,** decision making, **cash contribution and labour contribution.*** Measurement of social capital dimensions followed Grootaert (2000),Maluccio (2001)Aker (2005), Yusuf (2008) Komolafe and Adeoti (2018).

i. Meeting attendance index was obtained by summing up attendance of farmers members at meetings and relating it to the number of scheduled meeting per annum by the associations they belonged to. The value was then multiplied by 100 to give the index.

ii. *Density of membership* was measured by the number of active farmer membership in existing associations. A complete inventory of all associations was made at local level institutions. Each farmer was given the inventory and was asked to indicate which associations he/she belonged to. The proportion of membership of associations by individuals was calculated and rescaled to 100.

iii. ***Heterogeneity index was obtained by first identifying t**he three most important associations that each farmer belonged and asking each farmer questions on whether members of each of the three associations identified lived in the same neighborhoods, had the same occupation, were of the same economic status, were of same gender

and same age group. For each of the factors, a yes/ no response was coded 1 or zero (a value of one on each criterion indicated that members of the associations were 'mostly from different' kin groups, economic status, etc.). The scores in the three associations for each farmer were then divided by the maximum score to obtain an index. This index was then multiplied by hundred (a zero value represented complete homogeneity, while 100 represented complete heterogeneity).

iv. Decision making index: This was calculated by asking association members to subjectively evaluate whether they were "very active", "somewhat active" or "not very active" in the group's decision making. This response was scaled from 2 to 0, and was averaged across the three most important associations and multiplied by 100 for each farmer (Grooteart, 2000).

v. Cash contribution index was obtained from the total cash contributed to the three most important associations which the farmer belonged. The actual contribution for each farmer was rescaled by dividing the amount by the maximum fee scheduled to be contributed and multiplying the resultant fraction by 100 (Grootaert, 2000; Komolafe and Adeoti; 2018).

vi. Labour contribution index was obtained by the number of days that farmers belonging to associations have worked for their associations. This represents total number of days worked by members in a year divided by the total number of days they were scheduled to work for the associations. This was then rescaled to 100 (Grootaert, 2001).

· The Total Factor Productivity (TFP) estimation following Key and Mcbride (2003) was measured as the inverse of the average unit cost of production quantity

$$TFP \quad \frac{Q}{AVC} or \frac{1}{AVC} \qquad (1)$$

$$TFP \quad \frac{Q}{\sum_{i=1}^{n} Px_i X_i} \qquad (2)$$

Where:
Q = quantity of cassava in kg
AVC = Average Variable Cost in naira (N)

P*x* = price of input *i*
X = input *i*

· Likert Scale was adopted to measure the social dimensions indicators for appropriate scoring in other to estimate each of the indices using Low = [1], Average = [2] and High = [3].

· The ordinary least square regression was employed to elucidate the effect of social capital on the gender dimensions of Total Factor Productivity (TFP) of cassava farmers in Oyo State, Nigeria. Three equations were run separately; to explain the effect on male farmers' productivity,

female farmers' productivity and all farmers pooled together. The explanatory variables used in the econometric model essentially follow Yusuf (2008) and Balogun *et al.* (2018).

$$Y \quad _0 \quad _1Z_1 \quad _2Z_2 \quad ..... \quad _nZ_n \quad u_t$$

Where,
Y = TFP
β_0= Intercept
β_1- β_n= Parameters to be estimated
Z_1 = Gender (male=1, female=0; used only for the pooled data),
Z_2= *Age of farmer (Years),*
Z_3= Marital status (married=1, others=0),
Z_4= Years of education *(Years),*
Z_5= Household size (number),
Z_6= Farmer's experience *(Years)*,
Z_7= Farm size (hectares),
Z_8=Credit access (access=1, no access=0),
Z_9= Density of Membership (%),
Z_{10}= Cash contribution index (?)
Z_{11}=Labour contribution index (%),
Z_{12}= Decision making index (%),
Z_{13}= Meeting attendance index (%),
Z_{14}= Heterogeneity index (%),
u_t= error term

Results and Discussion

The socioeconomic characteristics of farmers are presented on Table 1. The results reveal that 76.1% of the cassava farmers were male while only 23.9% were female. The mean age was about 53 years although female cassava farmers were younger than their male counterparts. This agrees with the findings of Olorunsanya and Omotesho, (2011) that male cassava household heads are older than their female counterparts. Most (81%) cassava farmers were married while the mean years of education was about 7 years, although female cassava farmers had less years of education, about 4years, as also found by Okoruwa *et al.*, (2006). Most (52.2%) cassava farmers had households with 6-10 persons while the mean household size was about 7 persons. The household size has implications for the quantity of family labour used in the study area. The mean years of farming experience of the farmers was about 18 years, mean farm size was 2.31 ha while the mean annual income was ? 89,933.30. The mean farm size (2.42 ha) and income (? 95,807) of male farmers were observed to be higher than that of the female farmers, 1.49 ha and ? 71,222.93 respectively.

The description of the social capital dimensions of the cassava farmers is presented on Table 2. Most (55%) of the cassava farmers had higher density of membership in associations although more males (56.2%) had higher density of membership than female farmers (51.2%). This means that a higher proportion of males belong to more associations than females. With respect to cash contributions, most (77.2%) cassava farmers pay about ? 50 or less weekly to their associations. About 62.2% of the cassava farmers contributed labour to their association more than two weeks in a year. This is in line with Komolafe and Adeoti (2018) who found mean labour contribution to be about 26 days (3.5 weeks) in a year. In terms of active membership evidenced in participation in associations' decision making, it was revealed that about 53.9% of the cassava farmers are averagely active in their associations. Furthermore, about 88.3% of the cassava farmers have low to average meeting attendance in their associations, although; male cassava farmers had the higher proportion of low meeting

Table 1: Socio-economic Characteristics of Cassava Farmers

Characteristics	Males (%)	Females (%)	All (%)
Gender	137 (76.1)	43 (23.9)	180 (100)
Age			
25-44	42(30.6)	17(39.3)	59(32.7)
45-64	61(44.6)	19(44.3)	80(44.5)
>64	43(24.8)	7(16.4)	41(22.8)
Mean	53.23	50.67	52.62
Standard Deviation	13.87	11.79	13.68
Marital Status			
Single	9(6.6)	0(0.0)	9(5.0)
Married	119(86.9)	27(62.8)	146(81.1)
Divorced	8(5.8)	3(7.0)	11(6.1)
Widow	1(0.7)	13(30.0)	14(7.8)
Years of Education			
0-6	63(45.9)	26(60.4)	89(49.3)
7-12	70(51.2	17(39.6)	87(48.4)
>12	4(2.9)	0(0.0)	4(2.2)
Mean	8.38	7.12	5.80
Standard Deviation	7.14	3.82	6.79
Household size			
Small (1-5)	58(42.4)	18(41.8)	76(4.2)
Medium(6-10)	74(53.9)	20(46.6)	94(52.2)
>Large 10	5(3.7)	5(11.6)	10(5.6)
Mean	6.64	7.95	6.91
Standard Deviation	3.35	5.92	4.68
Farming Experience			
1-5	3(2.2)	5(11.6)	8(4.4)
6-10	11(8.0)	1(2.3)	12(6.7)
11-15	19(13.9)	1(2.3)	20(11.1)
16-20	24(17.5)	16(37.2)	40(22.30)
>20	8058.4)	20(46.6)	100(55.5)
Mean	19.01	15.37	17.91
Standard Deviation	15.23	12.04	14.28
Farm size (ha)			
1-5	75(54.6)	30(6.9)	105(58.5)
6-10	50(36.6)	13(30.3)	63(34.9)
11-15	8(5.9)	0(0.0)	8(4.4)
>15	4(2.9)	0(0.0)	4(2.2)
Mean	2.42	1.49	2.31
Standard Deviation	3.88	2.38	3.18
Annual farm income (?)			
= 25,000	6(4.4)	8(18.6)	14(7.4)
25,500-100500	98(71.5)	33(76.7)	131(62.7)
>100,500	33(24.1)	2(4.7)	35(19.5)
Mean	95806.57	71220.93	89933.30
Standard Deviation	29827.15	33217.84	52345.11

Source: Field Survey, 2016

attendance hence, were less frequent at association meetings than female cassava farmers. Level of heterogeneity of groups to which households belong was rated according to: neighborhood, kin group, occupation, economic status, religion, political group, gender, age, education, cultural practice, belief and trust; in line with Lawal *et al.* (2009). The result revealed that there is average level of heterogeneity among cassava farmers constituting about 46.1% in all. This shows that the cassava farmers in the associations are not too different from one another and this could promote trust and information sharing among the farmers.

The productivity levels of the cassava farmers are presented on Table 3. Productivity levels varied among the cassava farmers with about 71.1% having productivity of 0.2kg/? or less. The mean TFP was 0.189 kg/? , although; mean TFP for male farmers was 0.192kg/? while that of female farmers was 0.087kg/? . All female cassava farmers had productivity less than 0.11kg/? . Less than 30% of all the cassava farmers had productivity levels higher than 0.2 kg/? . The results are in line with Ogunsumi *et al.* (2013) who reported that majority of cassava farmers achieved productivity levels of between 0.1 and 0.5 in

Table 2: Social capital dimensions of cassava farmers

Social Capital Indicator	Male-Headed Households (%)	Female-Headed Households (%)	All Households (%)
Density of Membership			
Sparsely	60(43.3)	21(48.8)	81(45.0)
Densely	77(56.2)	22(51.2)	99(55.0)
Cash Contribution(?)			
= 50weekly	107(78.1)	32(74.4)	139(77.2)
= 50monthly	53(38.7)	8(18.6)	61(33.9)
= 50yearly	53(38.7)	8(18.6)	61(33.9)
Labour Contribution			
None	10(7.3)	2(7.3)	12(6.7)
At most two weeks per year	41(29.9)	15(34.9)	56(31.9)
More than two weeks per year	86(62.8)	26(60.4)	112(62.2)
Decision Making			
Low	54(39.4)	12(27.9)	66(36.7)
Average	69(50.4)	28(65.1)	97(53.9)
High	14(10.2)	3(7.0)	17(9.4)
Meeting Attendance			
Low	61(44.5)	15(34.9)	76(42.2)
Average	52(38.0)	21(48.8)	73(46.1)
High	24(17.5)	7(16.3)	31(17.2)
Heterogeneity			
Low	59(43.1)	12(27.9)	71(39.4)
Average	59(43.1)	24(55.8)	83(46.1)
High	19(13.8)	7(16.3)	26(14.4)

Source: Field Survey, 2016

Table 3: Productivity level of cassava farmers

TFP (kg/?)	Males (%)	Females (%)	All (%)
0.01 – 0.10	19 (13.9)	43 (100.0)	24 (13.3)
0.11 – 0.20	76 (55.5)	0 (0.0)	104 (57.8)
0.21 – 0.30	5 (10.9)	0 (0.0)	19 (10.6)
0.31 – 0.40	7 (5.1)	0 (0.0)	9 (5.0)
>0.40	20 (14.6)	0 (0.0)	24 (13.3)
Mean	0.192	0.087	0.189
Standard deviation	0.129	0.027	1.282

Percentages in parentheses
Source: Field Survey, 2016

Oyo state.

The results of social capital on the gender dimensions of agricultural productivity among cassava farmers in the study area are presented on Table 4. The F-value being statistically significant at 1% level, showing a good fit for the model. The determinants of productivity among male cassava farmers were age, years of education, farming experience, meeting attendance and heterogeneity. Farming experience and age were negative and significant in determining productivity of male farmers at 1% and 10%, respectively. This indicates that an increase in the farming experience and age of a male farmer by 1 year will decrease productivity by 0.278 and 0.57%, respectively. This result suggests that younger farmers are more productive than older farmers. This disagrees with Balogun (2018) who found that productivity increases with age. Marital status and years of education of farmers were positively related to productivity and each significant at 1%. This indicates that being married increases productivity of male farmers by 1.40% while an increase in years of education by one year, increases male cassava farmers' productivity by 0.316%.

With respect to social capital, meeting attendance and heterogeneity index were found to be negative and each significant at 5% level in determining productivity of male farmers. Hence, a decrease in the number of association meetings by one will increase a male farmer's cassava productivity by 0.91%. Similarly, reducing the diverse nature of the association to which a male cassava farmer belongs will increase his productivity by 0.22%. This implies that male farmers are more productive when they belong to homogenous associations where members have the same occupation, have similar economic status or live in the same neighbourhood.

Similarly, productivity of female cassava farmers was determined by age, marital status and farming experience. Unlike their male counterparts, productivity of female cassava farmers was also determined by household size and farm size which were both positive and significant at 1% and 5% level, respectively. Hence, increasing a female cassava farmer's household size by 1 person will increase her productivity by 0.745%. This may be because female farmers have

Table 4: Effect of Gender and Social Capital on Agricultural Productivity

Variables	Male	Female	All
	Coefficients (S.E)	Coefficients (S.E)	Coefficients (S.E)
Gender			0.0043(0.0020)**
Age	-0.5683(0.2878)***	-0.9768(0.4946)***	-0.1045(0.2442)
Marital Status	1.4004(0.3331)*	1.0416(0.5039)***	0.6778(0.2223)*
Years of Education	0.3157(0.1182)*	0.1925(0.1998)	0.2101(0.1121)***
Household Size	0.0945(0.1369)	0.7454(0.2114)*	0.0426(0.1199)
Farming Experience	-0.2206(0.8316)*	-0.5369(0.1856)**	-0.1110(0.0712)***
Farm Size(Hectare)	-0.2781(0.7380)	6.7381(1.1128)**	0.1447(0.1609)*
Access to credit	0.0309(0.0366)	0.1624(0.1487)	0.0244(0.3504)
Density of Membership	-0.0808(0.2733)	2.5333(0.3663)**	0.49910(0.2192)**
Cash Contribution	-0.2293(0.3076)	-1.8951(0.4681)**	-0.4636(0.2645)***
Labour Contribution Index	0.2005(0.1594)	0.1045(0.1824)	0.1086(0.1374)
Decision Making Index	-0.5550(0.3350)	-0.0315(0.2339)	-0.4655(0.1901)**
Meeting Attendance Index	-0.9110(0.4157)**	-0.1810(0.3611)	0.6971(0.2554)**
Heterogeneity Index	-0.2193(0.2921)**	0.6740(0.3792)	-0.6971(0.2554)
Constant	-82.8690(11.0368)*	-3.9823(8.9309)*	-22.8850(6.9816)*
Prob>F	0.0000	0.0000	0.0000
R-squared	0.6297	0.9547	0.5354
Adj R-squared	0.5239	0.8889	0.4469
Root MSE	0.3252	0.1691	0.3568

Source: Author's Computation
*Significant at 1% ** Significant at 5% *** Significant at 10%

less income to spend on hired labour and thus, rely more on family labour. This result agrees with Atagher (2013) who found that large family size leads to increased agricultural output. Similarly, farm size was positive and significant at 5% in increasing productivity of female cassava farmers but had no significant effect on their male counterparts. Hence, increasing a female cassava farmer's farm size by 1 ha will increase her productivity by 6.738%.

Interestingly, the dimensions of social capital that affect male cassava farmers differed from those that affect their female counterparts. Meeting attendance and heterogeneity index influenced productivity of male farmers whereas, density of membership and cash contribution influenced productivity among female cassava farmers. Density of membership was positive and significant at 5% level in determining productivity of female cassava farmers. Hence, increasing the number of associations that female cassava farmers belong by a unit will increase their productivity by 0.37%.

Conversely, cash contribution is negative and significant at 5% level in determining productivity of female cassava farmers. Increasing the cash contribution to an association for a female cassava farmer by ? 1 will decrease productivity by 0.47%. This result disagrees with Yusuf and Balogun (2011) that there is a positive relationship between cash contribution and productivity. This may be due to the disadvantaged position of female farmers in terms of income and assets.

In all, the pooled results show that gender was significant at 5% in determining productivity among cassava farmers. Specifically, being a male cassava farmer increases productivity by 0.004%. This finding is corroborated by Ogunleye (2018) who also found that gender improves productivity of cassava farmers. This underscores the fact that female cassava farmers are disadvantaged in terms of productivity. Other factors that significantly influenced productivity of cassava farmers in the study area were: marital status and farm size at 1%, density of membership, decision making index and meeting attendance index at 5% and years of education, farming experience, and cash contribution at 10%, with positive relationship to productivity excluding farming experience, cash contribution and decision making index. For instance, a decrease in cash contribution to the associations by ? 1 will increase productivity of cassava farmers by 0.46%.

Conclusion

It was established in this study that the socioeconomic characteristics and social capital dimensions that influences agricultural productivity of male cassava farmers differ from those that influence the productivity of female cassava farmers. Density of membership and cash contribution in addition to household size and farm size, influence agricultural productivity of female cassava farmers whereas meeting attendance and heterogeneity in addition to years of education, influence agricultural productivity of male cassava farmers. It was concluded that gender influences the productivity of cassava farmers alongside marital status, years of education, farming experience, farm size and social capital dimensions. Therefore, to increase the productivity of female cassava farmers, government policies that favour increased land acquisition for cassava farming should be encouraged while female cassava farmers should be encouraged to increase the number of associations they belong to. Associations should also explore in-kind contributions for female farmers. To increase the productivity of male cassava farmers, it is recommended that they join associations that are more homogenous while increasing their level of formal education is also encouraged.

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