



Full Length Research Paper

**Gender-Related Social Capital Utilization and Resource Accessibility in South-Western Nigeria: a Focus on Poultry Sector**

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**Abstract**

**Social capital is vital in agricultural resource management. This study aims at identifying types of social capital existent in the study area, and also investigates into the effects of social capital on acquisition of farm resources among poultry farmers with respect to genders. Three-stage sampling method was used in selecting sampling units, which range from selection of Lagos and Ogun States to selection of two Local Government Areas per state from where 116 poultry farmers were randomly selected. Descriptive statistics, Cobb Douglas production function, Ordinary Least Square (OLS) and probit regression analyses were used for data analysis. The variables of social capital considered were social capital from friends, relatives, cooperative societies and feed millers. The male farmers had more social capital from friends and feed millers, while the female farmers had more social capital from relatives. The two gender groups had about same level of cooperative society social capital. The resources considered for the study include poultry stock, labour, housing system and feed. Male farmers utilized feed millers and friends as social capital than the female poultry farmers. The study showed age of household head, gender, formal education, experience and feed millers social capital, friends social capital significantly influenced acquisition of poultry farm inputs. Female farmers had less utilization of social capital which resulted in less and insignificant consequential acquisition of resources. The female gender needs being more equipped with social capitals and their relevant networks for adequate and sustainable women empowerment, and inequality reduction between genders.**

**Keywords: Gender; Social Capital; farm resources; Nigeria**

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## Introduction

Social capital refers to the complementary norms, values, attitudes and beliefs that manage the relationships among people and institutions and influence their collaboration and communal supports (Grootaert, 1998). It is a type of capital that enhances economic growth and sustainable development (Coleman, 1988 and 1990; Putnam *et al.*, 1993). Studies have shown that rural communities which are bequeathed with a much social capital, in form of social networks, norms and values as well as social relationships, had better potentials for dispute resolution as well as valuable information, and execute thriving development programs (Trigilia, 2001; Woodhouse, 2006; Nardone *et al.*, 2010). Social networks help to promote cooperative behavior and alleviate the challenges relating to cooperative coordination. Such social networks through collective action can engender social capital which is required to implement agricultural technologies on individual farms, as well as enhancement of provision of credit, and sharing of risks. Social capital is important in raising awareness of new technologies and provision of farmer-led group-based training in new practices, and maintenance of links with government agencies. However, most rural societies comprise low capital societies. These societies are characterized by farming systems with their accruable benefits from investments being vague or lagged (Nyangena, 2004; Nyangena and Sterner, 2008). Farmers are faced with no likelihood of saving or borrowing; investments are usually made at the expense of current consumption. Consequently, social ties through social capital from support networks fill the gap in consumption and ease of investment. Though technologies are utilized on individual farms, there are some techniques that their information dissemination as well as their application could only be reasonably embarked upon at group level, thus making collective action predominantly significant (Nyangena, 2004).

Addis and Joxhe (2016) point out that access to social capital, along with its benefits, is not

uniformly distributed among individuals and social groups. Some groups classified by race, gender, religion and caste, are characterized with asymmetrical prospects in contrast to non-members. Consequently, members of deprived social groups would share lower quality of information and influence than social group members that have networks that are rich in resources. Specifically, women are mainly involved in social groups that have poor socioeconomic conditions compared to the male folks, who have tendency to establish associations with beneficial groups. The social capital of women is usually found at home, and entails exchanges of time and money as against utilization of their competence and potentials (Franklin *et al.*, 2005). Social networks that involve women are different to the social networks of men; women battle with disproportionate state of influence, possessing less capital and influence than men, and these women are very essential in consideration of social capital (Addis and Joxhe, 2016). There is need to properly analyze gender differences and asymmetries with respect to social capital accessibility and utilization. Hence, this study aims at examining the production factors of poultry production, as well as investigating the disparities existing among male and female poultry farmers in Southwest Nigeria with intention of seeking their accessibility and utilization of social capital for improved livelihood and reduction of inequalities among the genders.

### **Statement of hypotheses:**

- (i) There is no statistically significant difference in acquisition of poultry feed through social capitals with respect to genders
- (ii) There is no statistically significant difference in acquisition of poultry stock through social capitals with respect to genders
- (iii) There is no statistically significant difference in acquisition of labour input through social capitals with respect to genders

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(iv) There is no statistically significant difference in acquisition of housing system through social capitals with respect to genders.

**Materials and Methods**

Data collection was carried out through the use of well structured questionnaire. This was administered with interview conducted on the selected 116 poultry farmers. The study made use of multistage sampling techniques. This involved selection of Ogun and Lagos States of Nigeria. Ogun State was purposively selected because it has the highest population of poultry farmers in southwestern Nigeria. Lagos State was randomly selected out of the remaining five states in the region. This was followed by random selection of two Local Government Areas (LGAs) from each state among the LGAs with predominant poultry production. Lastly, a total of 116 poultry farmers (69 male and 47 female) were selected. The data collected contain

information regarding different types of social networks available to the poultry farmers, socio-economic characteristics of the farmers, and inputs used on poultry farms. Descriptive statistics, Cobb Douglas production function and Probit regression analysis were employed as the analytical methods, while Chow Test was used to test the hypotheses. The adjusted R<sup>2</sup> of the Cobb Douglas production function would be necessary to adjust for the difference in sample sizes of genders. Furthermore, the variables that were significant at 1%, 5% and 10% were singled out to determine the socio-economic factors as well as the type of social capital that influenced their level of utilization. In accordance to the study carried out by Stewart (1983) and Benoit (2010), Ordinary Least Squares (OLS) method, and also following McDonald and Moffitt (1980) and Smith and Brame (2003), Tobit regression analyses were used to achieve this. The model for Cobb Douglas production function, used to show the input-output relationship, is expressed as follows:

$$Q = f(X_1, X_2, X_3, X_4, X_5) \dots\dots\dots(1)$$

$$Q = a + \beta \sum_{i=1}^5 X_i + \mu \dots\dots\dots(2)$$

$$\ln Q = a + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_4 \ln X_4 + \beta_5 \ln X_5 + \mu_i \dots\dots\dots(3)$$

Where Q = output of egg (crates); X<sub>1</sub> = stock size (units); X<sub>2</sub> = feed (bags); X<sub>3</sub> = labour (manday); X<sub>4</sub> = veterinary services (naira); X<sub>5</sub> = type of

housing (dummy: battery cage = 1; deep litter = 0); and μ = error term. , βs = coefficients to be estimated.

The OLS assumptions include linearity of parameters; random sampling of observations; zero conditional mean; and no multi-collinearity

(or perfect collinearity). The model for OLS is expressed as follows:

$$X_i = b + \bar{U}_1 d_1 + \bar{U}_2 d_2 + \bar{U}_3 d_3 + \bar{U}_4 d_4 + \bar{U}_5 d_5 + \bar{U}_6 d_6 + \bar{U}_7 d_7 + \bar{U}_8 d_8 + \bar{U}_9 d_9 + e_i \dots\dots\dots(4)$$

Where X<sub>i</sub> = level of inputs used [stock size (units), feed (bags), labour (manday)]; d<sub>1</sub> = farmer's age (years); d<sub>2</sub> = gender (dummy: female = 1; male = 0); d<sub>3</sub> = farming experience (years); d<sub>4</sub> = household size (units); d<sub>5</sub> = level of formal education (years); d<sub>6</sub> = accessibility of

capital from relatives (dummy: accessible = 1; otherwise = 0); d<sub>7</sub> = accessibility of capital from friends (dummy: accessible = 1; otherwise = 0); d<sub>8</sub> = accessibility of capital from cooperatives (dummy: accessible = 1; otherwise = 0); d<sub>9</sub> = accessibility of capital from feed millers (dummy:

accessible = 1; otherwise = 0); and  $e_i$  = error  
 The probit analysis is expressed thus:

$$Y_i = b + \lambda_1 d_1 + \lambda_2 d_2 + \lambda_3 d_3 + \lambda_4 d_4 + \lambda_5 d_5 + \lambda_6 d_6 + \lambda_7 d_7 + \lambda_8 d_8 + \lambda_9 d_9 + w_i \dots (5)$$

Where  $Y_i$  = type of housing (dummy: battery cage = 1; deep litter = 0);  $d_1$  = farmer's age (years);  $d_2$  = gender (dummy: female = 1; male = 0);  $d_3$  = farming experience (years);  $d_4$  = household size (units);  $d_5$  = level of formal education (years);  $d_6$  = accessibility of capital from relatives (dummy: accessible = 1; otherwise = 0);  $d_7$  = accessibility of capital from friends (dummy: accessible = 1; otherwise = 0);  $d_8$  = accessibility of capital from

term.  $\gamma_i$ 's = coefficients to be estimated.

cooperatives (dummy: accessible = 1; otherwise = 0);  $d_9$  = accessibility of capital from feed millers (dummy: accessible = 1; otherwise = 0); and  $w_i$  = error term.  $\lambda$ 's = coefficients to be estimated.

Moreover, Chow test will be used to test the hypothesis that has been earlier stated. The formula for the Chow test is as follows:

$$F = \frac{[RSS_c (RSS_m + RSS_f)] / k}{(RSS_m + RSS_f) / n - 2k}$$

Where  $RSS_c$  = Residual Sum of Squares for the combined regression result  
 $RSS_m$  = Residual Sum of Squares for the regression result for male farmers

$RSS_f$  = Residual Sum of Squares for the regression result for female farmers  
 $k$  = number of variables under consideration;  $n$  = sample size

If the tabulated F value exceeds calculated F value, we accept the null hypothesis; otherwise we reject the null hypothesis.

### Results and Discussion

This section reports the results of the analyses, as it also discusses the implications of such results.

**Table 1:** Distribution of poultry farmers based on various social capitals and their accessibility

Social Capital Accessibility	Male		Female		Both genders	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
<b>Relatives</b>						
Accessible	2	2.9	2	4.3	4	3.4
Non-accessible	67	97.1	45	95.7	112	96.6
<b>Friends</b>						
Accessible	8	11.6	3	6.4	11	9.5
Non-accessible	61	88.4	44	93.6	105	90.5
<b>Cooperative</b>						
Accessible	12	17.4	8	17.0	20	17.2
Non-accessible	57	82.6	39	83.0	96	82.8
<b>Feed millers</b>						
Accessible	5	7.2	2	4.3	7	6.0
Non-accessible	64	92.8	45	95.7	109	94.0

Generally, the information on Table 1 shows that the poultry farmers in the study area were not adequately endowed with regard to social capital. The most common social capital was cooperatives with just about 17.0 percent of the respondents having access to cooperative as a form of social capital. Less than 10 percent of the farmers had friends as form of social capital; 6 percent of the respondents had the feed millers as a form of social capital, while the most uncommon social capital were the relatives with just about 3 percent of the farmers having relatives as a form of social capital. Among the male poultry farmers in the study area, cooperatives societies (17.4%) were the most common form of social capital, followed by

friends (11.6%). A similar case was observed among the female poultry farmers with cooperatives (17.0%) and friends (6.4%) being their most common form of social capital. The male poultry farmers were more endowed with regard various forms of social capital except for the accessibility to social capital from relatives. The female farmers had more social capital in the relatives than the male farmers; this is similar to the findings of Moore (1990), Neuhouser (1995) and Agrawal (2000). In summary, both male and female farmers were scarcely bequeathed with all forms of social capital but the female farmers were more critically inadequately endowed compared to the male counterparts.

**Table 2:** Factors of production that determined poultry production among selected farmers

<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistics</b>
Constant	-7.1716	4.2502	-1.6874
Feed	-0.3812	0.0981	-3.8876***
Labour	-0.3082	0.1848	-1.6679*
Stock size	0.3581	0.1479	2.4221**
Vet. Services	0.9753	0.7896	1.2352
Housing system	0.3685	0.1307	2.8193***

R<sup>2</sup>: 0.7264; dependent variable: egg (crates); N: 116

\*\*\* =1% significant level; \*\*=5% significant level; \*=10% significant level

The result of Cobb Douglas production function (Table 2) reveals the most significant variable inputs that determined egg production to include feed, labour, stock size and housing system. Feed and housing system were significant at 1% level of significance; the poultry feed input had negative coefficient which implies over-utilization of feed. This may suggest wastage of feed among the poultry farms. The housing system has positive coefficient which implies that battery cage system contributed more to poultry productivity than deep litter system. This is expected since battery cage system help in reducing incidence of diseases among the birds through reduction of contact with poultry wastes, and limitation of the movement of birds. The

stock size was significant at 5% level of significance; it has positive coefficient implies that increase in farm size enhanced increase in level of production. Lastly, the labour input was significant at 10% level of significance. It has negative coefficient which suggests over-utilization of labour. A reduction in level of labour input is required for output optimization.

The R<sup>2</sup> of 0.7264 indicates a good fit for the model. This means that almost 73% of the variation in the output of egg was explained by the variables. Hence, the study focuses on the influence of various forms of social capital as well as other socio-economic variables on accessibility of the significant production inputs.

**Table 3:** Socio-economic and social capital determinants for resource utilization among the poultry farmers

Variable	Feed	Stock size	Labour	Housing system
Constant	11.6699	8.6589	14.1916	5.7266
Age	1.4800*	4.0427***	-0.8616	0.2739***
Gender	-0.8758	-1.1777**	-0.6687	0.1770
Experience	0.9207	1.3484**	1.3478*	-0.0062
Education	3.5894**	-0.5430	-1.9875***	0.2642*
Household size	0.0573	0.4220	0.8985	-0.0705
Relatives Soc. Cap.	-0.9863	-0.1194	-0.3253	0.1713
Friends Soc. Cap.	1.1563	0.8763	3.8524***	0.3880
Coop. Soc. Cap.	0.0097	0.3703	1.0593	-0.1827
Feed miller Soc. Cap.	1.0232*	1.7634***	1.0538	-0.2170
R <sup>2</sup>	0.6229	0.8385	0.8181	0.7797
SE	0.7943	0.1679	0.5332	0.7786

\*\*\* =1% significant level; \*\*=5% significant level; \*=10% significant level

Tables 3-5 show the determinants of utilization of poultry farm resources such as feed, poultry stock, labour and housing system. According to Table 3, the socio-economic factors that influenced acquisition of poultry feed among the farmers were age and level of education. Both have positive coefficients which imply that older poultry farmers found it relatively easier to obtain poultry feed than the younger ones; also it could be implied that farmers that were more formally educated had it relatively easier to obtain poultry feed than less educated farmers. The social capital that influenced acquisition of poultry feed was feed millers social capital. From observation on the field, the feed millers offered feed credit to some of their customer farmers. This served as a form of social network that the farmers made use of in periods of cash drought. From observation, this feed credits was usually at zero interest rate, but payable within few weeks. The R<sup>2</sup> of 0.6229 indicates a good fit for the model. This means that about 62% of the variation in the quantity of acquired feed was explained by the variables.

The socio-economic factors that influenced acquisition of poultry stocks (Table 3) among the selected farmers include age, gender and level of experience. Farmer's age had positive coefficients. This implies that older poultry farmers found it relatively easier to obtain poultry

stocks than the younger ones. Also, experience had positive coefficients. It could be implied that farmers that had more years of farming experience had it relatively easier to obtain poultry stocks than less experienced farmers. Farmer's gender was also found to be significant. The negative coefficient implies that the female poultry farmers found it more difficult to obtain poultry stocks compared to their male counterparts. Katungi (2006) and Katungi et al. (2006) similarly found that men generally had better access to social capital. Also, Quisumbing *et al.* (1995) and Njuki (2001) observed that women had less access and control of resources, and less access to services. The social capital that influenced acquisition of poultry stocks was feed millers social capital. The result suggests that the feed millers, in addition to provision of poultry feed, also used their influence in enhancing acquisition of poultry stocks. This agrees with the study of Krishna (2001) that investigated the link between social capital and development performance. The result also falls in line with Parthasarathy and Chopde (2000) that indicate that social capital contributes to increased productivity and farm management. The poultry stocks range from day-old chicks, point of cage to point of lay birds. The R<sup>2</sup> of 0.8385 indicates a good fit for the model. This means that almost

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84% of the variation in the acquisition of poultry stocks was explained by the variables.

The socio-economic factors that influenced acquisition of labour input (Table 3) among the selected poultry farmers include education and level of experience. Farmer's experience had positive coefficients. This implies that farmers that were more experienced had it relatively easier to obtain labour input than less experienced farmers. Farmer's level of education was also found to be significant. The negative coefficient implies that the less educated poultry farmers found it relatively easier to obtain labour input than more educated farmers. The social capital that influenced acquisition of labour input in poultry farms was friend social capital. This reveals that labour acquisition among the farmers was enhanced through friendship network. The  $R^2$  of 0.8181 indicates a good fit for the model.

This means that almost 82% of the variation in the acquisition of labour was explained by the variables.

The socio-economic factors that influenced acquisition of poultry housing system (Table 3) among the farmers were age and level of education. Both have positive coefficients which imply that older poultry farmers found it relatively easier to obtain appropriate poultry housing systems than the younger ones. It could be also implied that farmers that were more formally educated had relatively easier access to acquire appropriate housing system compared to the farmers that were less educated. The  $R^2$  of 0.7797 indicates a good fit for the model. This means that almost 78% of the variation in the acquisition of housing system was explained by the variables.

**Table 4:** Socio-economic and social capital determinants for resource utilization among male

Variable	Feed	Stock size	Labour	Housing system
Constant	13.6664	9.4232	5.6136	5.8852
Age	1.5774**	-0.9003*	0.0920***	0.8665***
Experience	4.8744***	1.4097*	0.2380**	0.1720*
Education	2.0954***	-0.6444*	-0.2834*	0.7283**
Household size	0.7390	1.2555	-0.0148	0.3350
Relatives Soc. Cap.	-0.9636	0.3995	0.0664	-0.0006
Friends Soc. Cap.	0.8907	1.5625*	0.4391***	-0.8042
Coop. Soc. Cap.	-0.3111	1.3835*	0.2097*	-0.4847
Feed miller Soc. Cap.	0.7224*	4.2980***	-0.0831	1.1921
$R^2$	0.8114	0.8441	0.7659	0.5712
SE	0.9288	0.8556	1.5708	1.5554

\*\*\*=1% significant level; \*\*=5% significant level; \*=10% significant level

According to Table 4, the socio-economic factors that influenced acquisition of poultry feed among the selected male farmers were age, experience and level of education. All these have positive coefficients. It could be implied that older male poultry farmers found it relatively easier to obtain poultry feed than the younger male poultry farmers. Furthermore, it could be implied that male poultry farmers that had more years of poultry farming experience had it relatively easier

to obtain poultry feed than the farmers with fewer years of poultry farming experience. It could be also implied that farmers that were more formally educated had relatively easier access to acquiring necessary poultry feed compared to the farmers that were less educated. The feed millers social capital was the only social capital that influenced acquisition of poultry feed by the selected male poultry farmers. The presence of feed millers as a form of social capital was very

significant in contributing to acquisition of poultry feed by the male poultry farmers. The  $R^2$  of 0.8114 indicates a good fit for the model. This means that about 81% of the variation in the acquisition of poultry feed by the male farmers was explained by the variables.

The socio-economic factors that influenced acquisition of poultry stocks (Table 4) among the selected male farmers were age, experience and level of education. Farmer's age and level of education have negative coefficients, while level of experience in poultry farming has positive coefficient. It could be implied that younger male poultry farmers found it relatively easier to obtain poultry stocks than the older male poultry farmers. On the other hand, it could be implied that male poultry farmers that had more years of poultry farming experience found it relatively easier to acquire poultry stocks than those with fewer years of poultry farming experience. It could be also implied that farmers that had less formal education had relatively easier access to acquiring required poultry stock compared to the farmers that were more formally educated. Friends, cooperative and feed millers' social capitals were the significant social capitals that influenced acquisition of poultry stocks by the selected male poultry farmers. The male poultry farmers seemed to make use of their relationships with friends to acquire capital or information that enhanced their acquisition of necessary poultry stocks in their respective farms. In agreement with this, Kiptot *et al.* (2006) found that informal and kinship networks were useful for the dissemination of farm inputs especially seed. Also, farmers' cooperatives were found to be a crucial social capital in the acquirement of poultry stock for the male poultry farmers. This result agrees with Liang *et al.* (2015) which stated that cooperatives as social capital is very crucial for farmers' performance. Likewise Chamala and Shingi (1997) observed farmer groups to enhance farmers' productivity. Similarly, the presence of feed millers as a form of social capital was very significant in contributing to acquisition of essential poultry

stocks by the male poultry farmers. The  $R^2$  of 0.8441 indicates a good fit for the model. This means that about 84% of the variation in the acquisition of poultry essential stocks by the male farmers was explained by the variables.

The socio-economic factors that influenced utilization of labour input on poultry farms (Table 4) among the selected male farmers were age, experience and level of education. Farmer's age and experience have positive coefficients, while level of education of the farmer has negative coefficient. It could be implied that older male poultry farmers obtained labour input on their farms more relatively than the younger male poultry farmers. In the same vein, it could be implied that male poultry farmers that had more years of poultry farming experience obtained labour input on their farms more relatively than those with fewer years of poultry farming experience. It could be also implied that farmers that had less formal education obtained labour input on their farms more relatively than the farmers that were more formally educated. Friends and cooperative social capitals were the significant social capitals that influenced acquisition of labour input on the selected men-owned poultry farms. The male poultry farmers seemed to utilize their associations with friends to acquire labour input that is required on their farms. Also, farmers' cooperatives were found to be crucial as social capital in acquirement of labour input on the men-owned poultry farms. The  $R^2$  of 0.7659 indicates a good fit for the model. This means that about 77% of the variation in the acquisition of labour on men's poultry farms was explained by the variables.

The socio-economic factors that influenced acquisition of appropriate poultry housing system (Table 4) on poultry farms among the selected male farmers were age, experience and level of education. All of these variables have positive coefficients. It could be implied that older male poultry farmers had more tendencies to acquire appropriate poultry housing systems on their farms than the younger male poultry farmers.



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Also, it could be implied that male poultry farmers that had more years of poultry farming experience had more tendencies to acquire appropriate poultry housing systems on their farms than those with fewer years of poultry farming experience. Likewise, it could be implied that farmers that had more years of formal education had more tendencies to acquire appropriate poultry housing systems on their

farms than the farmers that had fewer years of formal education. None of the forms of social capitals was found to be significant in the acquisition of appropriate poultry housing system by the male farmers. The  $R^2$  of 0.5712 indicates a good fit for the model. This means that about 57% of the variation in the acquisition of appropriate poultry housing system by the male farmers was explained by the variables.

**Table 5:** Socio-economic and social capital determinants for resource utilization among female

Variable	Feed	Stock size	Labour	Housing system
Constant			-0.3374	0.5505
Age			0.1443*	0.0001***
Experience			0.3211***	-1.3014*
Education	<i>INSIGNIFICANT</i>	<i>INSIGNIFICANT</i>	0.9437***	0.1861***
Household size	<i>RESULTS</i>	<i>RESULTS</i>	-0.2125	-0.0431
Relatives Soc. Cap.			0.6127	-0.1800
Friends Soc. Cap.			-0.3588	0.3427
Coop. Soc. Cap.			0.2557	0.0272
Feed miller Soc. Cap.			-0.4475	-0.0418
$R^2$			0.6721	0.6736
SE			1.4460	1.4258

\*\*\*=1% significant level; \*\*=5% significant level; \*=10% significant level

In Table 5, the socio-economic factors that influenced utilization of labour input on poultry farms among the selected female farmers were age, experience and level of education. All of these variables have positive coefficients. It could be implied that older female poultry farmers obtained labour input on their farms more relatively than the younger female poultry farmers. Also, it could be implied that female poultry farmers that had more years of poultry farming experience obtained labour input on their farms more relatively than those with fewer years of poultry farming experience. Likewise, it could be implied that the female farmers that had more formal education obtained labour input on their farms more relatively than those that were less formally educated. None of the forms of social capitals was found to be significant in the acquisition of labour input by the female farmers. The  $R^2$  of 0.6721 indicates a good fit for the model. This means that about 67% of the

variation in the acquisition of labour input by the female farmers was explained by the variables.

The socio-economic factors that influenced acquisition of appropriate poultry housing system (Table 5) on poultry farms among the selected female farmers were age, experience and level of education. Farmer's age and education have positive coefficients, while experience has negative coefficient. It could be implied that older female poultry farmers had more tendencies to acquire appropriate poultry housing systems on their farms than the younger female poultry farmers. Also, it could be implied that female poultry farmers that had fewer years of poultry farming experience had more tendencies to acquire appropriate poultry housing systems on their farms than those with more years of poultry farming experience. Likewise, it could be implied that female farmers that had more years of formal education had more tendencies to acquire

appropriate poultry housing systems on their farms than the female farmers that had fewer years of formal education. None of the forms of social capitals was found to be significant in the acquisition of appropriate poultry housing system by the female farmers. The  $R^2$  of 0.6736 indicates a good fit for the model. This means that about 67% of the variation in the acquisition of

appropriate poultry housing system by the female farmers was explained by the variables. It should be noted that no socio-economic or social capital variable was found significant in the determination of acquisition of poultry feed and poultry stocks on the women-owned poultry farms.

**Table 6:** Test of hypotheses

s/n	Hypotheses	F value (calculated)	F value (tabulated)	Degree of freedom	Decision
1	There is no statistically significant difference in acquisition of poultry feed through social capitals with respect to genders	857.31	2.10	10,96	Reject
2	There is no statistically significant difference in acquisition of poultry stock through social capitals with respect to genders	277.62	2.10	10,96	Reject
3	There is no statistically significant difference in acquisition of labour input through social capitals with respect to genders	432.64	2.10	10,96	Reject
4	There is no statistically significant difference in acquisition of housing system through social capitals with respect to genders	7.01	2.10	10,96	Reject

Chow test is used to test for the hypotheses earlier stated. The rule of thumb is that if the critical F-value (tabulated) exceeds calculated F-value, the null hypothesis is accepted; otherwise it is rejected. The calculated F values for the Chow test are 1116.20, 361.49, 563.80 and 9.12 for the four variables under consideration (Table 6). The tabulated F value is 2.10. The calculated F values exceed the critical value in the table; hence, the null hypotheses are rejected. Therefore, the alternate hypotheses are accepted. It could therefore be concluded that there were statistically significant differences in acquisition of poultry inputs such as feed, poultry stocks, labour and housing, among both genders. Also, the female poultry farmers were significantly less endowed with wherewithal to obtain the essential poultry inputs through

inadequate accessibility to social capital available within their domain. Njuki *et al.*, (2008) had similar conclusion that gendered social capital is a critical factor in improving the adoption and use of technologies that are especially beneficial for livelihood outcomes.

### Conclusion and Recommendation

This study aims at investigating into access and utilization of social capital among different genders, and also examining effect of social capital on poultry industry. Social capital provides motivation for members of a society and encourages them to contribute to collective societal activities which in turn help in creating additional social capital. From the study, it could be observed that women were more at disadvantage in most social capital, especially

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with regard feed millers social network, friendship network and cooperative network. Hence, the following recommendations were suggested in order to level the playing ground between the gender groups with respect to social capital formation and utilization:

- Women should be educated with regard importance of social capital in improving farm operations and enhancing farmer's productivity.
- The female poultry farmers should avail themselves of the use of existing social capitals, especially the cooperatives and feed millers.
- Women's acquaintance with experienced and trusted male farmers may be necessary.
- It may be necessary for women farmers to come together to form women farmers' cooperatives/associations to bridge social capital gaps for their improved livelihood.

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