

Social Capital and Access to Credit among Cassava Farming Households in Ogun State, Nigeria

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Abstract

The Nigerian Government Agriculture Transformation Agenda (ATA) has its core thrust in increased cassava production for economic development. However, past efforts were bedeviled by constraints amongst which access to credit is chief; hence, this study examined the effect of social capital on access to credit among cassava farming households (CFHs) in Ogun State, Nigeria. One hundred and twenty CFHs were surveyed using a multi-stage sampling technique. Analyses included descriptive statistics and regression technique. Social capital dimensions considered are density of membership index, cash contribution index, labour index, decision making index, meeting attendance index, and heterogeneity index and the obtained indices were 49.5%, 35.5%, 51%, 57.3%, 55.1%, and 48.3% respectively. Some 44.2% and 35% of respondents sourced capital from personal savings and rotating savings & credit associations respectively, and the mean credit granted represented 45.5% of CFHs' credit needs. Logistic regression analysis of access to credit revealed that increasing values of decision making index, age, and payback period correspond to increasing odds of having access to credit. Conversely, increasing values of heterogeneity index and household size correspond to decreasing odds of having access to credit. Policy directed at investment in social capital development that enhances access to credit is recommended.

Keywords: Social capital, Credit, Cassava Farming Households, Agriculture Transformation Agenda, Ogun State

1. Introduction

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In developing countries, social capital has increasingly gained recognition in many aspects of agriculture, natural resource management and rural development. This is due to its perceived positive consequences for development and opportunity for those who lack possession of and access to financial, human or natural capital (Meinzen-Dick, DiGregorio & McCarthy, 2004).

There is increasing recognition that differences in economic outcomes, whether at the level of individual, household or state; cannot be fully explained by differences in traditional inputs such as land, labour, and physical capital. According to Serageldin (1996), traditional composition of capital (i.e., natural, physical and human capital) needs to be expanded to include social capital for sustainable development. Evidence is also mounting that social capital is an element of sustainable development (Lawal, Omonona, Ajani & Oni, 2009). The debate on social capital has thus brought together sociologists, anthropologists, political scientists and economists. While differences remain, there is agreement that, in contrast to all other concepts of capital central to the development debate, social capital is unique in that it is relational (Liu & Spanjers, 2009).

In industrialized economies, households generally obtain credit, against individual guarantees, from commercial sources that arrive at loan decisions based on readily available information on borrowers' credit risk. However, in most developing economies poor households often do not have access to the guarantee mechanisms, such as non-real estate-based collateral. This situation, combined with the overall lack of information about potential borrowers' credit worthiness, contributes to a virtual exclusion of this group of borrowers from formal credit markets (Bastelaer, 2000). Credit for rural smallholders, particularly in agriculture is assuming increasing importance in many parts of the world in response to the needs of less privileged entrepreneurs with limited capital base in the sector (Lawal *et al.*, 2009; Chloupkova & Bjørnskov, 2001). To use improved inputs and adopt new technology, farmers require credits. According to Iqbal, Ahmad & Abbas (2003), in developing economies, especially in Nigeria, savings among small farmers are of negligible amount and agricultural credit appears as an essential input for investment in agriculture. Von Pischke & Adams (1980) asserted that credit is an important resource in the further expansion of farm business to which poor rural households in developing countries lack adequate access.

1.1 Justification of the Study

Cassava (*manihot esculenta*) is a staple food of an average household (particularly for rural poor household) in Nigeria. Cassava or its derivatives form part of daily food both for poor and non-poor households. Therefore, this makes it an important factor in food security, poverty alleviation and employment generation among others. Since cassava has the potential for bridging the food gap, as it has been discovered from research that famine rarely exist where cassava is widely grown (Nweke *et al.*, 2002). Cassava can grow in poor marginal soil where most crops cannot grow (Okpukpara, 2010 citing Ali, 2005).

Yearly cassava production statistics by zone for 1999-2002 showed that, North Central had over 7 million tonnes of cassava to be the highest producing geopolitical zone, South- South produced over 6 million tonnes, while the South West and South East produced less than 6 million. North West and North East's productions were meagre in comparison, at 2 and 0.14 million tonnes respectively (FAO, 2004). In the South West, Ogun State was the highest producer of cassava followed by Ondo and Oyo States (IITA, 2004). However, current report indicates that Ogun State is a leading producer of cassava in Nigeria, contributing over 10 per cent to total annual national production and close to 6 million metric tonnes annually (Odule, 2012).

It is worthy to note that at the core of the Nigerian government's Agricultural Transformation Agenda (ATA), is increased cassava production with specifically 17 million metric tons out of the 20 million metric tons targeted for the production of staple food crops between 2011 and 2015 (National Planning Commission, 2011[NPC]). As a consequence, it is germane for farmers to have adequate and unconstrained access to credit in order to achieve this agenda and thus sustained economic development.

In the recent past, Governments at various levels have been trying in various ways to encourage rural farmers to adopt modern production technologies in order to boost farmers' productivity; nevertheless, there are constraints impeding this endeavour: chief among them is access to credit.

Access to credit affects household welfare outcomes through at least two channels. First, it alleviates the capital constraints on agricultural households and also reduces the opportunity costs of capital-intensive assets relative to family labour, thus encouraging labour-saving technologies and raising labour productivity; a crucial factor for agricultural development, especially in many African countries (Delgado 1995). Secondly, access to credit improves household welfare by increasing its risk-bearing ability and altering its risk-coping strategy. Also, by providing low-income farmers with sufficient credit, efficient investment decisions can be taken, thus increasing agricultural capacity and profitability (Chloupkova & Bjørnskov, 2001).

However, when social networks or relations that affect personal interaction amongst members of a community is included, it facilitates the poor's access to credit and lowers its costs, improve welfare by increasing information flows and reduction in transaction costs (Bastelaer, 2000). Given that a large proportion of Nigerian poor rural households lack access to financial services and the fundamental challenge it presents for sustainable economic development in the country; this study attempts to specifically examine the sources of credit, credit status and influence of social capital on access to credit among CFHs in Ogun State, Nigeria.

1.1.1 Theoretical framework and Empirical Review of Literature

Social capital as defined by Portes (1998) stands for ability of people to secure benefits by virtue of their membership in social networks or other social structures. However, according to Narayan and Pritchette (1999), social capital refers to the internal and cultural coherence of society, the norms and values that govern interaction among people and institutions, in which they are embedded.

Social associations have a direct bearing on the contacts that help in accessing resources and helping the economic processes. An example of such associations is the Grameen micro-credit program in Bangladesh where village women benefit from their affiliation with a particular group by obtaining loans without collateral (Woolcock and Narayan, 2000). Social capital as posited by Clercq and Dakhli (2004) is generated from informal institutions, and is considered as an additional factor of production. Also, social capital possessors can gain direct access to economic resources like subsidized credit, protected market etc. and can increase their cultural capital through contacts with experts and affiliate with institutions that can give institutional support (Portes, 1998).

This is further illustrated by the example in which farmers joining resources for buying machinery, for instance a harvester, can use their social capital both for obtaining the needed credit and for sharing the harvester, as well as perhaps obtaining additional information and learning from each other (Chloupkova and Bjørnskov, 2001).

A growing body of literature is adding weight to the concept that social capital plays an important role in financial services to the peasant farmers and consequently the rural development process.

Dhufues, Buchenrieder, and Munkung (2012) in their study of individual social capital and access to formal credit in Thailand found that, the greater the number of socially higher ranking personal network members to whom one is connected through a strong tie, the fewer the access constraints one is likely to face. Also, that credit institutions in Thailand often require a guarantor as social collateral and about 35 percent of all loans in the survey involved a guarantor (only 23 percent of the loans were secured by collateral). This implies that household with many strong links may be able to access more credit than unconnected persons.

Heikkila, Kalmi and Ruuskanen (2009) have earlier concluded that individual social capital is positively associated with access to institutional loans and that this matters more for poorer and less educated people. They also found that, the importance of individual social capital seems to increase when there is a decrease in the formality of credit institutions; indicating that people with low social capital may not have access to semi formal and informal credit in Uganda. Chloupkova and Bjørnskov (2001) further confirmed that improvements of agricultural credit can be achieved by relying on existing social structures, such as farmers' social capital. Their model illustrates that additional producer's gains from having access to credit composed of a price effect, an investment effect and a social capital externality.

In a related study, Bjørnskov (2000) established that groups' access credit from semi formal institutions and their repayment is due to the trust and norms shared, which he referred to as their social capital. Meanwhile, Larance (1998) asserted that social capital accumulated at the semiformal organizations is the largest, in comparison with those of formal and informal institutions, due to the fact that they expand clients' networks.

2. Methodology

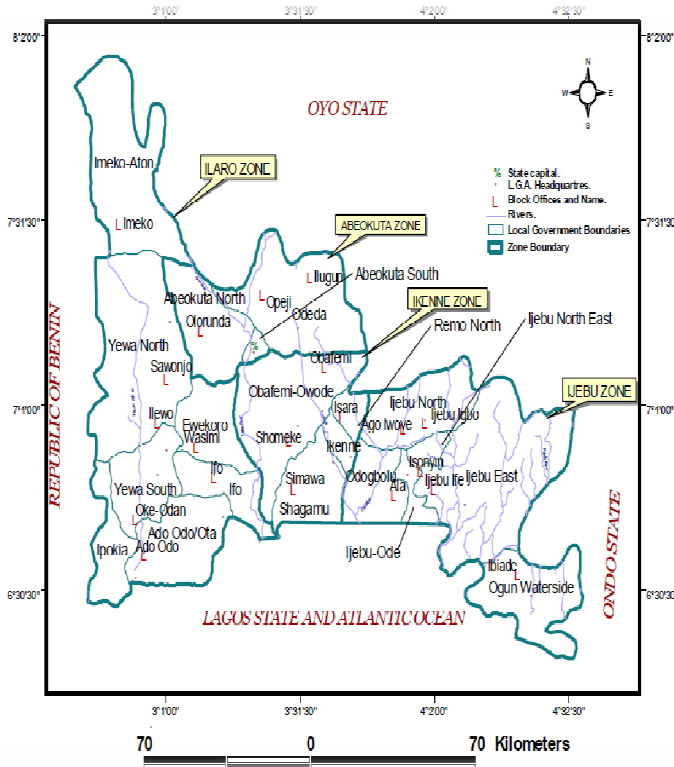
2.1 Study Area and Sampling Technique

Ogun State in southwest Nigeria was selected for the study because of her leading role in cassava production in Nigeria (Odule, 2012). Data used for this study were mainly from primary source. A multistage sampling procedure was used in the selection of respondents. Given that cassava is well cultivated throughout Ogun State, the four zones of Ogun State Agricultural Development Programme (OGADEV) were purposively selected (see Figure 1) and of the 20 blocks making up the four zones, 50% was randomly selected from each zone proportionate to the number of blocks per zone, which makes it 10 blocks. From the blocks, 12 cassava farming households were randomly selected for the survey. Consequently, 12 households from each of the 10 blocks produced 120 households that were randomly selected for the study.

2.1.1 Analytical Techniques

In consonance with the study objectives; data collected were analyzed using descriptive statistics and binary choice regression analysis (logit). In addition, different social capital dimension indices were constructed following Grootaert (1999) and Lawal *et al* (2009) while Logit regression model was employed to examine the influence of social capital on access to credit among cassava farming households (CFHs) in Ogun State.

Figure 1: Zones and blocks of Ogun State Agricultural Development Programme (OGADEP) Showing The Study Location



Source: Adopted from George, Olaoye, Akande, and Oghobase (2010)

2.1.2 Social Capital Dimensions Measurement

The effectiveness with which social capital, in the form of local associations, can fulfill its role in disseminating information, reducing opportunistic behaviour and facilitating collective decision making depends on many aspects of the association, reflecting its structure, its membership and its functioning. For this study, the focus is on six indices adopted by Grootaert (1999).

The social capital (SC) variables used included: density of membership, heterogeneity index, labour contribution, cash contribution, meeting attendance index and decision making index. The measurement of each is stated below.

1. **Density of membership.** A complete inventory of all associations at local level institutions was presented and each household was asked which associations they belong. This was measured by the number of active household members in existing associations, and the number of active membership in each household was then normalised by household size.
2. **Heterogeneity index.** The questionnaire identifies the three most important associations for each household. For those associations, a number of supplementary questions were asked including internal homogeneity of the group. This was rated according to nine criteria: neighbourhood, kin group, same income group, same religion, same sex, age, level of education, belief and cultural practices, and trust, hence, for each of the factors a 'yes' response was coded '2' while a 'no' was coded '1'. A maximum score of 18 for each association represents the highest level of heterogeneity. The score of the three associations was averaged for each household by dividing by the maximum score 54 to obtain the index. The resulting index was then multiplied by 100 (whereby a zero value represents complete homogeneity and 100 correspond to highest heterogeneity).
3. **Decision making index.** It has been argued that associations which follow a democratic pattern of decision making are more effective than others. This is calculated by summation of the subjective responses of households on their rating in the participation in decision making of the three most important institutions to them. This response was scaled from 4 to 0 respectively and averaged across the three most important groups in each household and multiplied by 100 for each household.
4. **Cash contribution index.** This was achieved by taking records of payment of membership dues and other contributions. The summation of the total cash contributed to the various associations which the household belong was calculated. The actual contributions for each household were rescaled by dividing the amount by the maximum fee in the data and the resultant fraction was multiplied by 100.
5. **Labour contribution index.** This is the number of days that an individual member belonging to association claimed to have worked for the association. This represents total numbers of man-days worked by household members. This was also scaled to 100 using the same method of cash contribution.
6. **Meeting attendance index.** This index was measured by finding the number of times members of association actually met as a group over a period of time. This was obtained by summing up attendance of household members at meeting and relating it to the number of scheduled meetings of the associations.

The value was then multiplied by 100.i.e the ratio of number of times meetings were attended to the number of meetings were called.

2.1.3 Logistic Regression Analysis

Logistic regression (logit) analysis is a uni/multivariate technique which allows for estimating the probability that an event occurs or not, by predicting a binary dependent outcome from a set of independent variables. In this regard, access to credit as defined in this study could be either unconstrained or constrained. The dependent variable is access to credit and since probability ranges between 0 and 1, CFHs with unconstrained access to credit were assigned 1 and the ones that were constrained have 0 assigned to them.

The linear probability model depicted it given as:

$$P_i = E(Y=1|X_i) = \beta_1 + \beta_2 X_i$$

where X_i is the explanatory variable and $Y=1$ means that the CFH has unconstrained access to credit.

Considering the following representation of access to credit:

$$P_i = E(Y=1|X_i) = \frac{1}{1 + \exp[-(\beta_1 + \beta_2 X_i)]} = \frac{1}{1 + \exp(-Z_i)} \quad (1)$$

Where $Z_i = \beta_1 + \beta_2 X_i$

Equation (1) is known as the (cumulative) logistic distribution function. Here Z_i ranges from $-\infty$ to $+\infty$; P_i ranges between 0 and 1; P_i is non-linearly related to Z_i (i.e. X_i) thus satisfying the two conditions required for a probability model. In satisfying these requirements, an estimation problem has been created because P_i is nonlinear not only in X but also in the β 's. This means that one cannot use OLS procedure to estimate the parameters.

Here P_i is the probability of having unconstrained access to credit and is given by $\frac{1}{1+\exp(-Z_i)}$; Then $(1-P_i)$, the probability of having constrained access to credit, is $\frac{1}{1+\exp(Z_i)}$

Therefore, one can write

$$\frac{P_i}{(1-P_i)} = \frac{1+\exp(Z_i)}{1+\exp(-Z_i)} \quad (2)$$

$P_i/(1-P_i)$ is the odds ratio in favour of having access to credit i.e.; the ratio of the probability that a CFH will have unconstrained access to credit to the probability that it will not have. By taking the natural log of (2), we obtain

$$L_i = \ln[P_i/(1-P_i)] = Z_i = \beta_1 + \beta_2 X_i \quad (3)$$

That is, the log of the odds ratio is not only linear in X , but also linear in the parameter. L is called the Logit, and it is thus specified below,

$$\log P/1-P = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 \dots b_{17} X_{17} + \mu \quad (4)$$

where:

Y = Access to credit by cassava farming households (CFHs)

An odds ratio equal to 1 suggests that the explanatory variable leaves the dependent variable unchanged. If the odds ratio is greater (less) than 1, it implies that the effect of explanatory variable is to increase (reduce) the dependent variable (Long, 1997 as cited in Balogun, Yusuf, Omonona & Okoruwa, 2011)

The explanatory variables included in the Access to Credit model

(a) Household Characteristics

X_1 = Age of household's head (years), X_2 = Square of age of household's head (years), X_3 = Gender of household's head (1 = male, 0 = female), X_4 = Marital status (1 = married, 0 otherwise), X_5 = Household size (number), X_6 = Farming experience (years), X_7 = Education level of household's head (years).

(b) Credit Variables

X_8 = Interest charged on loan per annum (%), X_9 = Time lag between credit request and delivery (weeks), X_{10} = Distance between place of dwelling and credit source (km), X_{11} = Payback period (year)

(c) Social Capital Variables

X_{12} = density of membership index (%), X_{13} = cash contribution index of households (%), X_{14} = labour contribution index of households to associations (%), X_{15} = decision making index(%), X_{16} = meeting attendance of households to associations (%), X_{17} =heterogeneity index of associations (%), μ = error term, b_0 = Constant term

3. Results and Discussion

3.1 Socioeconomic characteristics of Respondent Cassava Farming Households (CFHs)

Household head's average age was about 47 years, depicting that they were in their economically active and productive years. About 93% (111) of the cassava farmers in the study area were married with an average household size of seven members (Table 1). This may be due to the fact that marriage and having children or dependants supply the needed household labour on the farm, which is characteristically what holds in the rural areas of Nigeria. This finding is in consonance with Yusuf (2008), who found that households in Nigeria had an average of 7.0 persons. Majority of household heads (52.2%) had primary education and could relate with the credit procurement process. Seventy-eight members which represents 65% of CFHs surveyed leased land for cassava production while the remaining 35% (42) owned the land, with a mean farm size of 2.3ha, CFHs spent an average of ₦9,858.3 per annum on land rent.

Table 1: Selected Socioeconomic Characteristics of Respondents

Variable	Freq	%	Mean	SD	Min	Max
Age						
<30	10	8.3	46.7	16.4	19	98
30-40	47	39.2				
41-50	25	20.8				
51-60	16	13.3				
>60	22	18.3				
Household Size						
1-5	44	36.7	7.0	3.8	1	25
6-9	50	41.7				
>9	26	21.7				
Education Level						
No formal	23	19.2				
Primary	63	52.5				
Secondary	28	23.3				
Tertiary	6	5.0				
Land Tenure						
Owned	42	35				
Leased	78	65				
Farm Size(ha)			2.3	3.0		
Rent Amount(N)			9,858.3	18,424.1		

Source: Field Survey, 2012

3.1.1 Status of Social Capital among CFHs

Table 2 shows the status of social capital among CFHs. The mean density of membership index (DM) was slightly below average (49.5%). Cash Contribution Index (CCI) was generally below low (35.5%). Afolami, Obayelu, Agbonlahor, & Lawal-Adebowale (2012) in their study noted that poor financial strength of groups was a major constraint to group activities and development and the extent of membership financial contributions has an overriding effect on group's sustenance.

Labour Contribution Index (LCI) obtained was slightly above average. This result is in concordance with group's ideals and community spirit exemplified by possessors of social capital; an evidence of individuals coming together on a free and voluntary basis and with a spirit of cooperation to work together for social and economic benefit of all.. Decision Making Index (DMI) was moderate across credit sources with an average of 57.3%.

Generally, Meeting Attendance Index (MAI) was above average (55.1%) as against 44% recorded in Balogun *et al.*, (2011). This result validates the findings in Okunmadewa, Yusuf & Omomona (2007), Yusuf (2008), Lawal *et al.*(2009) and Balogun *et al.* (2011) that households that regularly attend group meetings are better positioned to obtain credit than others who do not. This claim is further established by Afolami *et al.* (2012) that loan acquisition by group members is contingent on their regular meeting attendance.

The level of CFHs heterogeneity as shown in the table reflects low diversity in membership associations. This result is consistent with the findings in Yusuf (2008) and Awoyemi & Ogunyinka (2010) that a low level of heterogeneity could be tolerated due to the fact that high degree of heterogeneity in an association usually have negative implication, because it makes trust among members more difficult, since it implies lesser degree of homogeneity.

Table 2: Status of Social Capital among CFHs

Social Capital	Mean	SD	Min	Max
Density of Membership	49.5	22.1	10	100
Cash Index	35.5	19.8	3.2	86
Labour Index	51.0	32.2	10	100
Decision Making Index	57.3	20.5	6.3	100
Meeting attendance Index	55.1	21.9	6.0	100
Heterogeneity Index	48.3	21.7	6.7	77.8

Source: Field Survey, 2012

3.1.2 Sources of Credit

In descending order of importance, CFHs surveyed sourced credit for cassava production from the following sources: 44.2% of the surveyed farmers secured credit from Personal Savings (PS), 35% from Rotating Savings and Credit Associations (ROSCAs), 13.3% from Cooperative Societies (CS), 3.3% from Local Money Lenders (LML), 2.5% from Commercial Bank (BNK), and 1.7% from Friends and Relatives (FRF) (Table 3a). Given the essential timeliness for agricultural production, the order of CFHs' composition in the credit market may be due to the fact that they could not afford any delays in credit procurement.

In cassava production credit is frequently for the payment for labour wages, purchase of farm inputs and financial servicing of other concerns that enhanced their productivity and returns within the period. Therefore, majority of the farmers relied on personal savings acquired from sale of farm produce. This is usually done without recourse to anyone and could be accessed as and when needed, while avoiding the bureaucracy associated with formal credit institutions. In the same vein, having 35% of respondents' participation in ROSCAs, may be due to the flexibility of rules that govern their operations and as a result of the relationship that exist among the individuals. Those that need credit urgently could talk to others, and turns could be exchanged or skipped in order to serve the ones in urgent need of credit.

The low percentage (13.3%) of CFHs' participation in CS may be attributed to the challenges frequently encountered in cooperative group formation and survival. Feedbacks obtained, showed that farmers backed out of cooperatives when they could not enjoy the promised benefits associated with group membership; particularly accessing credit and subsidized inputs from government. This fact is corroborated by Afolami *et al.* (2012), in their finding that cooperative groups were established in the study area to serve as receptacles for subsidized agricultural services and input. They established that group survival is dependent on benefits.

Also, farmers' low participation in LML is not surprising; due to the perceived high interest rate and shylock-kind of management that usually accompany such credit source. In like manner, the percentage of CFHs' participation in BNK, may also be due to the bulky paper works involved and the perceived delay and reluctance in administering credit to farmers; given the perceived risk involved in agricultural production.

However, the low result 1.7% of CFHs participation in FRF was a bit surprising, because FRF are supposed to be the ones to have recourse to in times of dire need. As posited by Balogun & Yusuf (2011), FRF are the last option available to households experiencing shocks and some form of income and consumption volatility.

The minimum credit demanded by CFHs in the last production, was ₦4,000.00 and the maximum was ₦450,000.00, giving an average credit demand of ₦98,550.8. The maximum credit granted ₦400,000.00 while some applications were out rightly denied. Mean disbursement was of ₦44,841. 7. The mean credit granted represents about 46% of CFHs credit need. This shows that credit demanded was not commensurate with credit supplied, as less than half of the amounts requested for as loans from credit sources were granted. This finding was similar to Balogun *et al.* (2011) in which the average microcredit granted represented 44.2% of the total credit needs of the households. The difference between what was demanded and what was supplied is indicative of the constrained credit status of CFHs (see Table 3b).

Table 3a: Sources of Credit among Respondent CFHs

Sources	Bank		Cooperatives		Local Money lenders		Personal Savings		Friends and Family		ROSCAs		Pooled	
Proport-ion	2.5%		13. 3%		3.3%		44.2%		1.7%		35%		100%	
Variable	Mea n	SD	Mean	SD	Me an	SD	Mean	SD	Mea n	SD	Mea n	SD	Mea n	SD
Credit Need	1023 33. 3	9652 1.2	12781 2.5	98977. 6	330 00	119 44. 3	10011 5.1	91965. 4	1945 00	7778. 2	8683 3. 3	9471 7.8	9855 0.8	9298 6.7
Min	7000		30000		220 00		4000		1890 00		1000 0		4000	
Max	2000 00		35000 0		500 00		35000 0		2000 00		4500 00		4500 00	
Amount Granted	4566 6.7	3669 2.4	10481 2.5	86150. 4	330 00	119 44. 3	0.0	0.0	8400 0	9333 8.1	7778 5.7	9097 4.5	4484 1.7	7536 0.2
Min	7000		25000		220 00		0.0		1800 0		7000		0	
Max	8000 0		30000 0		500 00		0.0		1500 00		4000 00		4000 00	
PaybkPeriod(yr)	0		0.9		0.2		0.0		0.0		0.45		0.1	
Mn	1.0		0.4		1.0		0.0		0.4		0.3		0.0	
Max	1.0		1.0		1.0		0.0		0.5		1.0		1.0	

Source: Field Survey, 2012

3.1.3 Households' Access to Credit

Seventy percent of CFHs were credit constrained while 30% of them were credit unconstrained (Table 3b). Across credit sources, unconstrained access to LML among participating CFHs was 100%, followed by ROSCAs (54.8%), CS (50%) and BNK (33.3%). However, only the participants in PS and FRF recorded 100% constrained access to credit.

The constraint experienced by ROSCAs, CS, LML and BNK may be an indication of credit rationing by credit institutions, due to low liquidity in order to allow for more disbursement coverage, while the constraint of FRF may be due to the unwritten code of conduct intrinsic among Nigerians, that if a friend or relative demands money from you, give the amount you can easily for go in case he/she defaults.

On the other hand, the 100% constrained access to credit among CFHs that patronized PS may be as a result of the constraints associated with access to credit in Nigeria. Research results showed that the ratio of rural branches to total branches of formal credit institutions is low compared to informal and semiformal institutions; as a result constituting a limitation of small scale farmers' credit access (Badiru, 2010). For this reason poor resource farmers recourse to savings which serve as a self insurance mechanism for them. They could access credit unhindered as and when needed, no matter how small the volume, without recourse to any one or bureaucratic process. Likewise, LML beneficiaries may have enjoyed 100% unconstrained access to credit because of the low participation rate and the volume of credit demanded, due to fear of default and the perceived consequences associated with such credit source. As a result of this, the available credit could go round.

Table 3b: Respondent CFHs distributed by Credit Status

Access	Banks		Cooperatives		Local Money lenders		Personal Savings		Friends and Family		ROSCAs		Pooled	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Unconstrained	1.0	33.3	8.0	50.0	4.0	100	0.0	100	0.0	0.0	23.0	54.8	36.0	30
Constrained	2.0	66.7	8.0	50.0	0.0	0.0	53	0.0	2.0	100	19.0	45.2	84.0	70
Total	3	100	16	100	4	100	53	100	2	100	42	100	120	100

Source: Field Survey, 2012

3.1.4 Influence of Social Capital on Access to Credit

The logistic regression result showing the influence of social capital on access to credit is presented in Table 4. According to Freeman *et al.* (2008) as cited in Fatoki & Odeyemi (2010) when reporting the results of a logistic regression analysis, the estimated odds ratios for the regression coefficients, their confidence intervals and associated P-values should be presented. In addition, it is necessary to give some information about the goodness of fit of the model to the data.

The coefficient of the likelihood ratio of Chi-square was estimated as 39.50 ($p < 0.05$) indicating a good fit for the estimated logistic model. Both credit and social capital parameters were tested to evaluate which has significant influence on access to credit. The measure of access to credit is binary and based on whether CFHs had unconstrained access or constrained access to credit. Following the approach by Scott (2000) as cited in Shoji, Aoyagi, Kasahara, Sawada & Ueyama (2010), the definition of credit constraints in this study represents the excess demand for consumption and investment credit with respect to the overall market, including formal and informal lenders. Households were defined as facing constrained access to credit either if they borrowed money but could not borrow as much as they wanted, or if they did not borrow from any sources because their credit applications were rejected; they feared default, or lacked available credit sources.

Also, households were facing unconstrained access to credit when they borrowed the required amount, or when they did not borrow because they did not have to.

Hence, the dependent variable (Y) is one for CFHs with unconstrained access to credit and zero otherwise. The result shows that social capital variables (decision making index and heterogeneity index), age, household size and payback period are important variables in influencing access to credit among CFHs.

The odds ratio for age of 1.08 with a p-value of 0.001 implies that access to credit increases as the farmers grow older. This means if age is increased by 1 year, access to credit will increase by 1.08. The reason that could be adduced for this, is that the older the head of CFHs', the better he is accustomed to the vagaries associated with the credit market and would have discovered the best that suits his/her vocation and credit needs. Also, in the course of time he would have built relationships of trust among the credit sources patronized, and his/her goodwill made room for enhanced access to credit. However, household size with odds ratio 0.93, p-value 0.004 was significant in the access to credit model. The result indicates that CFHs with large household size are significantly less likely to access credit. Since credit is meant for productive and income generating activities; a large household size may divert this to consumption and other family concerns, due to financial constraint such households may be experiencing.

Payback period for credit with odds ratio 5.38 and p-value 0.007 also significantly influenced access to credit. If credit institutions increase payback period of loan by 1 year, CFHs are more likely to access credit. The limited period of time allotted to farmers for loan repayment is the cause of many defaults. Given the peculiarity of cassava farming production cycles, an increase in loan repayment period will cause more farmers to be able to repay as and when due, thereby enhancing other farmers access as well as theirs. In the study, other borrowers default was the major reason adduced to credit constraint.

Decision making index with odds ratio 1.99, p-value 0.000 was found to be highly significant in access to credit model. A unit increase in decision making among CFHs' in associations will increase the likelihood of having access to credit by 1.99. The height of participating in an association is decision making, as it affords individuals involved to contribute, assess and keep abreast of the current happenings and benefits in the association. Such individuals are drivers, risk-takers and not laggards in association, thereby increasing their chance of accessing credit more than others that are onlookers.

This result is an indication of the effectiveness of social capital in enhancing access to productive resources, and participation in collective decision making is central to social capital in the form of membership of local association.

On the other hand, heterogeneity index parameter with odds ratio 0.99, p-value 0.000 was found to be highly significant. A one unit increase in CFH's heterogeneity score will lead to a 0.99 decrease in the likelihood to access credit. This result is different from that obtained by Yusuf (2008) and Balogun *et al.* (2011). They found the parameter of heterogeneity index to be significant and positively affected households' welfare in Kwara, Osun and Ekiti States. However, Yusuf (2008) opined that just like heterogeneity of associations can be source of information for improved welfare status, it could also be a source of conflict among members of association. Consequently, this may be attributed to the inverse relationship between CFHs' group heterogeneity and access to credit in Ogun State.

Table 4: Influence of Social Capital on Access to Credit among CFHs in Ogun State

Variable	odds ratio	confidence interval (95%)	p -value
Age	1.08***	0.84-1.39	0.001
Age ²	0.99	0.99-1.00	0.624
Gender	0.91	0.12-7.02	0.652
Marital Status	0.25	0.22-4.69	0.916
Household size	0.93***	0.77-1.11	0.004
Farming Experience	1.99	0.92-1.08	0.889
Education year	0.96	0.83 -1.12	0.655
Interest charged	0.20	0.98-1.06	0.057
Time lag	1.99	0.76-1.27	0.098
Credit distance	0.94	0.85-1.04	0.126
Payback period	5.38***	11.9-613.99	0.007
Density index	1.09	0.98-1.04	0.817
Cash index	0.98	0.96-1.02	0.435
Labour index	0.99	0.98-1.01	0.742
Decision index	1.99***	0.95-1.01	0.000
Meeting index	1.01	0.98-1.03	0.531
Heterogeneity index	0.99***	0.98-1.04	0.000
Chi-square	39.50***	-	0.002

Source: Field survey, 2012 ***Significance level is at $p < 0.05$

4. Conclusions and Recommendations

Based on empirical evidence that could be drawn from both descriptive and inferential statistics employed for this study, the following conclusions may be drawn on the findings.

Critical consideration of the major sources of credit patronized by CFHs in Ogun State has further given credence to the fact that social capital is an imperfect response to the absence of perfect credit markets. Even though constraints still exist in the quest for credit, empirical evidence from this study has revealed that investment in social capital development via active participation in associations activities, especially decision making processes, increases the relative probability of having unconstrained access to credit.

Therefore, policy should be directed at investment in social capital development that would enhance CFHs access to productive resources, especially credit and thus achieve financial leverage that would further boost cassava production via the cassava revolution agenda of the Federal Government of Nigeria. Also, operators at the credit market should take cognizance of the gestation period of 8-12 months for cassava in determining the payback period of credit and also consider moratoriums for farmers as the need arises. Finally, farmers should participate more actively in group activities, not just for what they can get but for what they can give; as effective participation in association's decision making will facilitate access and sharing of information that enhance access to productive resources like credit and labour among others.

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