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Social Capital and Welfare among Farming Households in Ekiti State, Nigeria

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Abstract
The study examined the effects of social capital on household welfare in Ekiti State, Nigeria. The data for the study was collected from 186 households in three local government areas (LGAs) of the state using random sampling techniques. Data analysis was done using descriptive statistics, social capital indices and regression technique. Average age of the household heads stood at 54.4 years with 7 years of formal education. Household size was 7 members with monthly per capital income of ₦38,801.56. About 18% of per capita expenditure was spent on food. Households attended two out of every three meetings and had high level of active participation in decision making of 77%. The index of heterogeneity at 23.7 indicated low level of diversity of the associations. Monthly cash contribution was highest for members in cooperative associations followed by religious association. A one unit increase in the level of social capital would increase household per capita expenditure by 0.31%. Disaggregation of social capital into its components showed that its effect on welfare was traceable to cash contribution and decision making of households in associations. Social capital was truly exogenous to household's welfare with no reverse causality. The study concluded that social capital positively affected household welfare.
Keywords: Social Capital, Welfare, Heterogeneity Index, Exogeneity, Ekiti State

1.0 Introduction

Social capital is defined mainly as an attribute of an individual, as a person's potential to activate and effectively mobilize a network of social connections based on mutual recognition of proximity (in one's social space) and maintained by symbolic and material exchanges (Bourdieu,1986). In this context, social capital has the properties of the private goods, which individual accumulate and use to achieve their own goals. Social capital can also be referred to as an attribute if it enables individuals to cooperate and act collectively (Putnam, 2000). Within this framework, social capital is based on the high degree of interpersonal trust as well as on the trustworthiness of public and political institutions that establish and uphold the rule of law, making all kinds of exchanges transparent and safe. For these reasons, social capital has the properties of a public good facilitating achievement of higher levels of efficiency and productivity (Mateju, 2002).

The linkages between social capital and welfare is particularly relevant in many rural communities throughout Sub-Saharan Africa, where households suffer from pervasive and extreme poverty. In Nigeria, poverty is especially acute: average per capita income is $320 per year, well below the World Bank's line of $1 per day (UNDP, 2002). Since social capital refers to the networks and norms that govern interactions among individuals, household and communities. Such networks are often given structure through the creation of local associations or local institutions. Social capital can have an important impact on household welfare, either substituting for or enhancing existing forms of capital in communities where traditional forms of capital required to generate income are scarce or depleted. Households and villages with stronger social ties might be more likely to share risk, thereby mitigating the negative impacts of exogenous climatic shocks.

Local associations can serve a wide variety of functions in the life of a community. They can play a vital role in the management of the community such as provision of social services such as education and health, provision of infrastructure services, like water and electricity. They can also help the household obtain access to credit and help farmers manage irrigation and improve access to agricultural inputs.In a poor rural setting, a prime consideration for households is to develop coping strategies to deal with the risk of income fluctuations and this may involve the use of social network in time of need and or arranging access to credit. Putnam (2000) and Grootaert (1999) believed that social capital has quantifiable effects on different aspects of human endeavour. The duo argued that the effects on different aspects of life include: lower crime rate, better health (Wilkinson,1996), improved longevity, better

educational achievement (Coleman, 1998), greater levels of income equality (Karachi, et al., 1997), improved child welfare and low rate of child abuse (Cote and Healy, 2001). Others include lower corruption and more effective government (Putnam,1995; Knack, 1999), dispute resolution and enhanced economic achievement through increased trust and lower transaction cost (Fukuyama, 1995). All of these mechanisms can potentially affect household welfare and enhance community groups to overcome poverty.

1.2 Problem Statement

The Nigerian government has not been left out of the global trend of concerted efforts at poverty reduction as witnessed by a flurry of activities in all sectors especially in the rural and agricultural sectors of the economy in the past decade. However, the effect of all these efforts is yet to be felt by majority of Nigerians who are mainly rural dwellers as living conditions of people in Nigeria have not witnessed a significant growth (NHDR,2009). Nigeria has consistently ranked low on the Human Development Index (HDI). Nigeria's current ranking of 142 out of 168 countries (UNDP,2010) is an indication that many people in Nigeria have a low quality of life despite its being ranked 43 out of 185 countries in per capita. Nigeria is often regarded as a country with millions suffering in the midst of plenty. This paradox is not only general but also affects significantly the small farmers who produce the majority of the internal food supply of the country but are often the guinea pig of most empirical analysis of poverty. They are said to receive a little portion of the market value of their produce due partly to the actions of middlemen who capitalize on the high perishability of the produce and the poor quality of storage facilities around them. The absence of appropriate local level institutions and the weakness of existing ones largely deprive the poor from participating in the decision making process of interventions and issues that affect their welfare. Notwithstanding, recent studies do indicate that local institutional strengthening through the active participation of the poor in project design and implementation is a necessary factor in poverty reduction. Thus, group formation (social network) is now seen as an important requirement for the poor to benefit from some of the publicly instituted poverty reduction programmes (Yusuf, 2006). This recognition probably explains the basis for group formation as an important requirement for the poor to benefit from some of the public instituted poverty reduction programme. Social networking helps to improve and shape the social and economic sphere in African countries. This is particularly important in the rural areas where majority of the population are poor and social connection is crucial to their daily interactions. The study therefore seeks to fill the knowledge gap in welfare analysis by examining the effects of social network on economic outcome, that is, welfare of farming households.

The absence of appropriate local level institutions and weakness of existing ones largely disenfranchised the farmers from participating in the decision making process of interventions and issues that affect their welfare. A typical household survey does not have information on the types of variables that might reflect social capital. Hence, the need for a research which would provide detailed information on social relationship and structures with the aim of improving the standard of living of the farming households. There is a growing recognition that differences in economic outcomes at the level of the individuals, households or state cannot only be explained by differences in traditional inputs such as labour, physical and human capital. Growing attention is given to the role of social capital in affecting the level of development of communities and nations. The qualitative assessment of poverty tagged voices of the poor in Nigeria which fed into the World Development Report (2000/2001) identified local level institutions as key to sustaining welfare of the poor (World Bank/DFID,2000). As a result, there is need for quantitative analysis of the effect of social capital on household welfare. This would assist in validating the qualitative assertion in the voices of the poor. Arising from the foregoing, this study hopes to provide answers to the following research questions:

- Is social capital truly capital?
- What types of social networks are available to rural households and the most important association (networks) to household head?
- Is there a significant relationship between social capital and welfare of farming households in the study area?

1.3 Justification of the Study

The qualitative assessment of poverty tagged voices of the poor in Nigeria produced the World Bank Development Report of 2001 which identified local level institutions as key to sustaining welfare of the poor. Studies have revealed that local institutional strengthening through the active participation of the poor in project design and

implementation is a necessary factor in poverty reduction in Nigeria. This recognition probably explains the promotion of group formation (Social connectedness) as an important requirement for the poor to benefit from some of the public instituted poverty reduction programme, (Okumadewa, et al., 2005). Increasing global attention is being given to the study of social capital and its effect on various aspects of human life and the environment. Although social capital has attained an important place and a vital factor/asset necessary for an understanding of differences in economic outcomes. There is need for empirical facts on the relationship and effects of social capital on household welfare in order that would not only serve as a tool or guide for policy makers in their untiring quest to improve welfare and achieve the age long objectives of government of improving rural livelihood. Facts from this quantitative study would also be of great use in forming a link between the concepts and reality. It will also facilitate the proposition of relevant policy intervention and reforms that would lead to improved welfare and practical alleviation of the level of poverty in the study area. The recognition that social capital development is an important factor in the production function of an individual or household to reduce poverty suggests that it must complement human and physical capital before the full benefits of any development programme id derived. (Okumadewa, et al., 2005). The need therefore for the use of quantitative analysis to examine the effect of social capital on household welfare aimed at validating the qualitative assertion in the voices of the poor therefore becomes a necessity. Recent studies in Nigeria have treated social capital and household welfare separately. Such as Yusuf et al., (1999), Omonona, (2000) and Okumadewa et al, (2005).

Other studies which have empirically established link between social capital and household welfare in Nigeria are Okumadewa, et al., (2005,2007) and Yusuf (2006). In these studies, conceptualization of social capital was mostly based on household level trust, however village level trust which has also been identified as an important factor (Narayan and Prichett 1999, Grootaert et al., 2002) will also be explored in this study. On welfare issues in Nigeria, recent projects have focused emphasis on group formation as a strategy for enhancing household welfare. This approach is based on encouraging the participation of local level institutions in poverty reduction. It is aimed at improving access of the poor to social and economic infrastructure and increase the availability and management of development resources at the community level in Nigeria. This study therefore seek to provide the basis for using group formation as a strategy for enhancing household welfare through poverty alleviation and community development as well as provide justification for or against this strategic approach in reducing poverty in Nigeria.

2.0 Conceptual Framework and Literature Review

2.1The Concept of Social Capital

The concept of social capital in a society includes the institutions, the relationships, the attitudes and values that govern interactions among people and this contributes to the economic and social development. Social capital lowers the costs of working together and facilitate cooperation. People have the confidence to invest in collective activities, knowing that others will also do so. The central idea of social capital is that networks and the associated norms of reciprocity have value for the people who are in them and at least, in some instances; demonstrable externalities, so that there are both public and private aspects of social capital. Some forms of social capital are highly formal with organized chairperson or a president and membership dues, such as national organization, labour union amongst others. Other forms of social capital, such as a group of people who gathers at a newspaper stand every day, are highly informal. Both forms constitute networks in which reciprocity can easily develop, and in which there can be gains. Some forms of social capital are densely interwoven like a group of people who work together every day at the factory, and attend the same church every Sunday will exhibit strong social capital. On the other hand is a very thin, almost invisible form of social capital, like establishing acquaintance with a person occasionally at the supermarket or while baiting in a line. Merely nodding to someone in a hall generates visible, measurable forms of reciprocity. Social capital represents the degree of social cohesion in communities. It refers to the processes between people that establish networks, norms and social trust, and facilitate coordination and cooperation for mutual benefit (WHO,1998) as quoted by HAD (2004).

The key elements of social capital are:

i. Social resources: These are informal arrangements between neighbours or within a community.
ii. Collective resources: This includes establishment of self-help groups, credit unions, community safety schemes .e.t.c.
iii. Economic resources which is based on the levels of employment; access to green, open spaces.
iv. Cultural resources: Examples are libraries, art centre, local schools.

All these resources are ordinarily valuable but the values are rarely demanded when there is effective social capital in place. People offer the services free of charge in the spirit of altruism because of the prevailing circumstances that they have all subscribed to. Communities where social capital is abundant are often characterized by high levels of trust between friends and neighbours, shared norms and values and local people engaging in civic and community life. According to Grootaert and Bastelaer (2001), the concept of social capital can be viewed along three dimensions. They are its scope (or unit of observation), its forms (or manifestations), and the channels through which it affects development. The concept has been discussed in several influential works (Bourdieu 1983; Coleman 1988 and Putnam 1993; 2000) and has been around since 1920s. However, there has been an explosion of interest in the importance of social relationships, norms and networks across the social sciences over the past 5 – 10 years.

2.2 Measurement of Social Capital Dimensions

Meeting attendance index: The index was obtained by summing up attendance of household members at meetings and relating it to the number of scheduled meetings per annum by the associations they belong to. The value was then multiplied by 100. Meeting attendance is expected to be positively related to the benefit received from social groups, Maluccio, (2000) Aker, (2005). Heterogeneity index: This is an aggregation of diversity of members of the three most important institutions to the households. For example, same kin group, occupation, economic status, religion, gender, age group and same occupation. A maximum score of 10 was allotted for each association to represents the highest level of heterogeneity. The scores by the three most important associations for each household was then divided by the maximum score of 30 to obtain an index which was then multiplied by hundred. The coefficient is expected to be positive in the regression model. However, in some studies the index is negative. Such as Okunmadewa et al (2005).

Labour contribution: This is represented by the number of days that household members claimed to have worked for their various groups. It represents total number of days worked by household members or number of days worked per year as membership contribution. The coefficient is expected to be positive according to Grootaert (1999), Okunmadewa et al.,(2005) and Yusuf, (2008). Decision making index: This is the summation of how the respondents rank their participation in the decision making of the three most important groups to them. An average of the rank for the three groups was calculated and multiplied by 100 for each household. The expected sign is positive, Grootaert (1999), Yusuf (2008), Okunmadewa et al (2005). Cash contribution: This is the amount paid as membership due per annum in an association. This was obtained by the summation of the total cash contributed to the various associations which the household belongs. Cash contribution can also reveal respondents' commitment to the group. The coefficient is therefore expected to be positive, Grootaert (1999). Membership density: This is the ratio of members of local level institutions in the households divided by the household size. This is however multiplied by 100 to convert it to percentage. The coefficient is expected to be positively related to both benefit received through social capital acquisition as well as household welfare. (Aker, 2005) Aggregate social capital index: This is the multiplicative social capital index. The index was calculated using the products of density of membership, heterogeneity index and decision making index of households in their various social group. (Grootaert, 1999).

In the model above, all explanatory variables were assumed to be exogenous. Household assets are assumed to consist of human capital (measured by a binary variable for educational attainment of adult household members), other capital (hectares of land owned), physical capital (access to farm equipment and livestock) and financial capital (access to credit), The key feature of the model is the assumption that social capital is truly "capital" that is, a stock, which generates a measurable return (flow of income) to the household. Social capital has many "capital features: it requires resources (especially time) to be produced and it is subject to accumulation and destruction. Social capital is believed to be built during interactions which occur purposely for social, religious, or cultural reasons. The key assumption is that the networks built through these interactions will have measurable benefits to the participating individuals, and lead directly or indirectly, to a higher level of wellbeing. There is an impact assumption that social capital is embodied in the members of the household. This conforms to the position of Fortes (1998), which advocated that social capital itself is an individual asset, although it is sourced from the relationship which exist among a group of individuals. Contrary to this is the position of Putnam (1993), who sees social capital as a collective asset. Two Stage Least Square (2SLS).

In order to test whether social capital is truly capital, instrumental variable (IV) was used. Since social capital can be accessed at a cost (time and resources), therefore the causality between expenditure and social capital runs in both direction and this would cause the OLS estimates to be biased. In order to address the joint endogeneity problem, it

will be necessary to isolate the exogenous impact of social capital on household expenditure; Instrumental Variables (IV) was used for other potential exogenous variables in the model. This Instrumental Variable was highly correlated with social capital and uncorrelated with household expenditures. Variables such as length of household residency in the community, household donation in the past year and membership in a religious group was used as instrument for land, livestock and farm equipment respectively at the household level.

2.3 Literature Review

Following the seminal work of Putnam, growing attention is being given to social capital and its impact on household income, including developing countries. Narayan and Pritchett (1999) stress the importance of the dimensions of social capital in studies of income and poverty. They argue that studies, which concentrate solely on the capital of each individual, miss an important part of what they call the 'poverty puzzle'. The important role played by local associations concern the mechanism of information sharing through members of the association, the reduction of opportunistic behavior and the simplification of making collective decisions (Grootaert 1997; Collier 1998; Grootaert 1999). "It's not what you know, It's who you know". This common aphorism sums up much of the conventional wisdom regarding social capital. It is wisdom borne out of experience that gaining membership to exclusive clubs requires inside contacts, that close competitions for jobs and contracts are usually won by those with "Friends in high places." When we fall upon hard times we know it is our friends and family who constitute the final "safety net."

Conscientious parents devote hours of time to the school board and to helping their kids with homework, only to become aware that a child's intelligence and motivation alone are not enough to ensure a bright future. Less instrumentally, some of our happiest and most rewarding hours are spent talking with neighbours, sharing meals with friends, participating in religious gatherings, and volunteering on community projects. Social capital according to Lin (2001) is an" investment in social relations with expected returns in the market place." This definition reflects most writings on social capital (Bourdieu,1983/86; Bourdieu and Kreekel, 1983; Burt, 1992; Coleman, 1988; Lin, 1982; Poetes, 1998). Burt (2000) distinguishes two classes of models of social capital. One is based on closure and is derived from the writings of Bourdieu and Coleman. The other perspective focuses on structural holes and advantage through social structure that accrues through brokerage (Burt,1992). The closure model views social capital as an advantage resulting from a protected structure, like a closed network that gives its members access to resources that are denied outsiders.

According to Bourdieu, Social capital is not an attribute of individuals, nor a property, for it is shared between (at least) pairs of actors. However, the level of social capital an individual possesses is an outcome of his/her investment strategies, aimed at nurturing and reproducing to be leveraged later to achieve specific goals. According to Coleman (1988, 1990), social capital encompasses both the notion of dynamic relationship and the overarching social structure. As a special form of capital, that can be distinguished from physical and human. Social capital is a property of social relationships and a resource actors possess and share accepted by scholars who highlight that social capital may be instrumental and help actors both in a social and in an economic sense, that often are interwoven and hardly detachable from one another. Social capital has four main effects: Getting information (Granovetter,1983'Burt,1992), transfer of knowledge, innovation and diffusion of technology or practices (Ahuja, 2000; Brown and Duguid, 1991; Powell, 1998; Wenger, 1998) combining complementary knowledge and helping solving problems (Greve and Salaff,2001;Teece,1986; Von Hippel,1988) and brokerage (Burt,1992;1997). These effects may be present simultaneously to a larger or lesser extent depending on the task at hand. Thus, the effects may vary over time depending on the needs and the competence of those accessing social capital. Social capital is crucial for starting and supporting economic actions, so that its positive effects can be observed in domains such as industry formation, innovative processes, inert-firm corporation and entrepreneurship (Aldrich,1999; Powell,1998). Social capital helps entrepreneurs to pool and combine resources (Burt,1992); it opens up chains of opportunities by channelling proper information and it supports consensus formation from institutions. Social capital also supplies entrepreneurs with assistance and advice and helps them to reduce uncertainty by structuring their task environment (Birley,1985;Aldrich and Zimmer,1986; Larson and Starr,1993; Greve,1995).

3.0 Methodology

3.1 Study Area

The study was carried out in Ekiti State. The State was created in October 1st , 1996 with a total land area of

approximately 10,898.68 sq kilometers. The estimated population on creation was put at 2,384,212.170 (NPC, 2006) which represent about 1.7% of the nation's total population. The State lies within the tropic in the rain forest and savannah region of south western part of the country. It is located between longitudes 4 45′ and 5 45′ East of Greenwich meridian and latitude 7 15′ and 8 5′ North of equator (Carim, 2002). The state is bounded in the south by Ondo State, in the north by Kwara State, on the east by Kogi State. The State enjoys a typical tropical climate with two distinct seasons, the rainy season which last roughly from April to October and the dry season which prevail for the remaining months. The state has an annual rainfall which ranges between 2000 and 2400mm. The indigenes are predominantly Yoruba speaking with Ekiti dialects. Ekiti State is basically an agrarian state where majority of the inhabitants are essentially small holder farmers who depend largely on agriculture for their livelihood while the women are predominantly traders. The major cash crop include cocoa, palm produce and timber and the food crops grown includes yam, cocoyam, cassava and grains such as rice, beans and maize. The state is known for lumbering and export of cash crop which bring revenue generation to the indigenes and the state as a whole. The month of November is characterized by dryness as a result of north east wind coming from the Sahara desert.

3.2 Sources of Data and Sampling Method

The study made use of primary data. The primary data were collected with the aid of well-structured questionnaire. Data collected at the household level captured information on the demographic characteristics of farmers, participation and involvement in local level institutions, income and health of the respondents. A multistage stratified random sampling technique was used to select representative households. The state was stratified into three senatorial district: Ekiti east, Ekiti south and Ekiti northern zones. One local government was selected from each of the three zones respectively. Ikere Ekiti local government area from Ekiti South, Ido –Osi local government area from Ekiti North and Omuo local government area from Ekiti East. A total of One hundred and eighty nine respondents were randomly selected. The questionnaires were administered to the farmers and where it was necessary, questions were translated to local language (Yoruba) for easy comprehension.

3.3 Methods of Data Analysis

The analytical techniques that was used for the study includes descriptive and regression analysis. Descriptive tools such as mean, tables, frequencies, percentages, indices and standard deviation was employed in the analysis of the demographic information of the respondents. In addition, different social capital dimensions were constructed. The regression analysis model was used to determine welfare by relating per capita household expenditure directly to exogenous asset endowment of the households

Influence of Social Capital on Welfare

The analytical framework adopted by Okunmadewa et al (2005) was applied to analyze social capital and its influence on welfare. The conventional model of household economic behavior under constrained utility maximization was applied in connecting household expenditure levels (as money-metric indicator of welfare) to exogenous asset owned by the household and variables describing the social and economic environment in which the household makes decision. The customary reduced-form model of household welfare used by (Grootaert and Narayan, (2000), (Christiaan Grootaert, Anand Swamy), (Grootaert, (1999), (Grootaert,(1996) relates the level of household expenditure (as money-metric indicator of welfare) directly to the exogenous asset endowments of the household and variables describing the social and economic environment in which the household makes decisions. The model, specified below, would be adopted for the study. The model estimation is based on the generic equation:

$LnEI = \alpha + \beta sci + \gamma HCI + \delta OCI + Exi + \eta Zi + UI$ …….eqn(1)

where;

Ei = Household expenditure per capita of household

α = Constant term

SCi = Household endowment of social capital, the variables include: density of membership, heterogeneity index, meeting attendance index, cash contribution index, labour contribution index, decision making index and aggregate social capital index)

HCi= Household endowment of human capital; (education in years)

OCi = Household endowment of other assets; (land owned, farming equipment, farm size, number of livestock)

xi= a vector of household characteristics; (age in years, sex (dummy), household size (number), marital status (dummy), farming enterprise (dummy)

Zi = a vector of village/region characteristics,
Ui = Error term.(unobserved disturbances and potential measurement errors)
Y = Per capita expenditure
X_1 = Age (years) of Farming Households
X_2= Sex (male=1, female=0) of Farming Households
X_3= Level of education (years) of Farming Households
X_4= Household size (number)
X_5= Farming status (full- time=0, part-time=1) of Farming Households
X_6= Mixed farming (mixed farming=1, Otherwise=0)
X_7= Status in the group (executive=1, member=0) of Farming Households
X_8= Meeting attendance index
X_9= Decision making index
X_{10}= Heterogeneity index
X_{11}= Membership density index
X_{12}= Cash contribution (₦)
X_{13}= Labour contribution index
X_{14}= Aggregate social capital index

The first set of equations explains the income generating behavior of the household and describes how the household combine their various asset endowments to make decisions regarding labour supply for each of its members, taking the wage rates and demand situation in the labour market as given. In this formulation, social capital can be considered as one among several classes of assets available to the household to make their decisions. Social capital is combined with human capital, physical capital and the ownership of land to make productive decisions. The second set of equations portrays the household's demand for inputs (agricultural inputs, credit) and services (education, health) which may need to be combined with labour supply in order to generate income. Here too, social capital is one category of capital which determines these decisions.

The model considers social capital as a stock, which is capable of providing a stream of income to the household. According to Okunmadewa et al (2005) which followed Grootaert and Narayan (2000) much social capital is built during interactions, which occur for social, religious, or cultural reasons. The key assumption is that the network built through these interactions has measurable benefits to the participating individuals, and lead, directly or indirectly to a higher level of well-being. There is an impact assumption that social capital is embodied in the members of the household. This conforms to the position advocated by Portes (1998), which highlights that, although the source of social capital is the relationship among a group of individuals, the capital itself is an individual asset. This is in contrast to the position of Putnam (1993), who sees social capital as a collective asset. The equation will be estimated over households with the implicit assumption that social capital is embodied in the members of the household. Therefore variable Zi (vector of village/region characteristics) will be omitted from the equation.The Sci is obtained through the construction of a multiplicative index of the three social capital dimensions, which the literature has always shown to be: density of association, internal heterogeneity and active participation in decision making. The household welfare is hypothesized to be influenced by the independent variables included in the equation below:

Exp = f (Sc, Hc, Oc, Hh)

Where Exp is the per adult equivalent expenditure for the ith household, Sc, Hc and Oc are the vectors of household endowment of social capital, human capital and other capital asset respectively, and Hh is a vector of household characteristics. The Ordinary Least Square (OLS) regression was used for the analysis

3.4 Definition of Variables

The social capital variables that were used in the regression analysis include: Density of membership (average number of active membership per household), Index of heterogeneity (internal heterogeneity of groups that household members belong to), Meeting attendance (average number of times a household attended a group meeting in the last 12 months), Index of participation in decision making (extent of active participation in the associations), Cash contribution (the amount paid for membership per annum in the associations), and Work contribution (number of days worked per year as membership contribution). Human capital variable will be measured by the cumulative number of years of formal education corresponding to the highest level of education attained by the household head.

Household characteristics to be included in the analysis are:

i. Marital status of household head (1 if married, 0 if otherwise)
ii. Household size
iii. Gender of household head (1 if male, 0 if otherwise)
iv. Age of household head
v. Square of the age of household head will be used to capture the life cycle of household welfare.
vi. Main occupation of household head (1 if farming, 0 if otherwise)

4.0 Result and Discussion

Findings reveal that 11.3 per cent of the respondents are between 31and 40 years age range, 31.7 per cent are within the 51 and 60 years bracket while 5.9 per cent dare 71 years and above. The average age of the respondents in the study area is 54.4 years and this falls within the age range with the highest percentage. This shows that most of the respondents are in their economic active age. About 77 per cent of the farming households interviewed were males while 23 per cent were females which attest to the fact that males are more involved in farming due to tedious nature of primitive agriculture practiced in the rural areas. The average household size in the study area is 6 member per household. The findings reveal that 30.6 per cent of the respondents had household sizes that were below the mean household size group. The highest household number in the study area is 12 while the lowest is 1.Education wise, 27.4 per cent of the respondents have spent between 7 and12 years in formal education. That is, secondary education while only 12.4 per cent of the respondents had tertiary education. However, 30.1 per cent of the respondents had no formal education. While 30.1 per cent of the respondents had primary education respectively.

Going by farming household's age and social capital dimension as presented in the table 4.2, participation of households in social institutions reveals that the age range between 51 and 60 accounted for the highest percentage (22.53%) in membership of local institutions, followed by respondents that are between 61 and 70 years (20.83%). Those that are less than 30 years have the lowest membership density (9.09%). On the level of membership diversity, people within the age range of 70 years and above have the highest diversity in the association they belong and this accounted for 23.64 per cent while those below 30 years have the lowest diversity. This could be attributed to the experience gathered as a result of ageing which was acquired in farming activities (i.e, diversity in association increases with ageing of the heads. Attendance of meeting result reveals that groups except the respondents that are less than 30 years participated less at scheduled meetings by their various associations. However, the highest representation of 75.7 per cent at meeting attendance is by those within 61 and 70 years. This implies that households attend at least every other meetings scheduled. That is, one out of every two meetings. The highest representation of cash contribution to various associations is within age group of 61 and 70 years followed by 51 and 60 years with the mean value of ₦3,350 and ₦2,550 respectively. Respondents that are above 70 years of age does not contribute cash to the various associations. The reason for this could be traced to reduction in their income generating activities due to failing health conditions.

Also, distribution of farming household's size and social capital dimension further reveals the composition of the household in terms of size is presented in table 4.4. The household size group that participated most in local institution is those having between 11 and 15 members with a representation of 30 per cent as the average value 13 and 17 members while those with least participation in local institution are those within 1 and 5 members. Households with 6 to 10 members have the highest diversification (23.68%) while those with 1 to 5 members are least diversified (20.82%). On meeting attendance, households with 11-15 members has the highest meeting attendance in their local institution while household with 6 to 10 members has the least meeting attendance. Respondents having between 6 and 10 household members contributed most to their various associations with an average value of 89.76% (₦5,700) followed by household with 1-5 members with ₦2,525. However, households with 11-15 members do not contribute cash to all their various associations, and this could be attributed to the fact that the larger the household members in the group (11-15), the lesser they relinquish contribution to associations with making provision to feeding the entire members of the households. Household groups with 6-10 members has the highest labour contribution to their association (12 man days) while respondents with members between 11 and 15 does not contribute to their association.

On decision making, the result shows that household with 11-15 members has highest contribution in decision making in their institutions with 77.78 per cent while households of 1-5 members has the least contribution in terms of decision making. This shows that as household size increases, the level of decision making also increases thereby

empowering household head as a result of large family size to contribute to their various institution decision. On the aggregate level, social capital increases as the number of households increases with households having 11-15 members with the highest contributor of 43.15% while households with 1-5 members has the least contribution on the aggregate social capital. Distribution of Educational level and social capital dimension reveals that the educational level of the respondents presented in table 4.5, Respondents with 13-17 years of education (tertiary level) have the highest per cent of membership density in local institution with (26.38%) and this is closely followed by respondents with primary and secondary education. That is, 20.55% and 18.13% respectively. The least however in the group is those without formal education. This reveals that education level exposes households more to participation in local level institutions. On diversity in memberships, respondents with 13-17 years of education (tertiary level) are most diversified with 27.25 per cent while the least diversified are those with no formal education. Meeting attendance across the educational groups show that all the respondents have above average attendance with the respondents with no formal education having the least meeting attendance of 62.1 per cent; this could be due to the fact that the more enlightened the respondents are (educated), the more they participate in meetings in their community. This implies that education is positively related to meeting attendance in the community. However, respondents with secondary level of education have the highest value of cash contribution of ₦725.00 monthly while respondents with primary level of education has the least contribution of ₦400.00 monthly respectively as their average contribution to their various associations. This shows that the higher the education level of the respondents, the more they contribute to their various local level institutions. On labour contribution, respondents with primary education has highest contributions followed by respondents with no formal education while households with tertiary level of education contributed least of 0.52man days to labour contribution of their various institutions. This however, shows that as the respondents level of education increases, the lesser they contribute to labour. Hence education is negatively related to labour contribution of the households and these further support the fact that exchange of physical labour would be recorded among households with less educational qualification.

4.1 Social Capital and Household Welfare

Table 4.6 below presents the effect of social capital on household welfare. In the first column of the table is the basic model of household welfare behaviour. This model shows that household size and education make significant contribution to household welfare. The model suggests that household demographic characteristics play a significant role in explaining variations in household welfare. For example, a decrease in household size by one person is associated with an increase in household expenditures by 95.5%, whereas an increase in the level of education by one unit is associated with an increase in household expenditures by 86.6%. An inclusion of six additive social capital variables to the model increases the model's explanatory power as reflected in the adjusted R^2 of 0.314. The primary exogenous variables such as household size and education are statistically significant. Participation in decision making in a social group is statistically significant and negatively related to household expenditures. This suggests that household welfare will reduce as household get involved in the affairs of their social group. Cash contribution is significant but negatively related to household welfare.

4.2 Social Capital and Household welfare: Any reverse relationship?

The main thesis of this study is that social capital is really an input in household's production function. However, it has been argued that social capital like human capital can be in part, consumption good (Grootaert, 1999), thus, it becomes imperative to validate the assumption of social capital being truly capital. In order to do this, the study tested for the existence of bidirectional causality with the aid of instrumental variable. Using the aggregate social capital model as indicated in Table 4.7, the original social capital index was replaced by an instrumental variable index of trust. This index was arrived at based on submissions by Narayan and Prichett (1997), Grootaert et al. (2002). Earlier studies have always used a common instrumental variable to verify the endogeneity effect of social capital. The instrument commonly used is "trust" as used by Narayan and Prichett (1997), Grootaert (2001), Grootaert et al, (2002), Okumadewa et al, (2005) and Yusuf (2008). The exogeneity of social capital is therefore inferred. This result is in line with Prichett (1997), Grootaert (1999), Okumadewa et al, (2005), Aker (2005) and Yusuf (2008). A one unit increase in the level of social capital lead to 0.31 percent increase in per capita expenditure of households.

5.0 Conclusion and Policy Implication of the Study

The factors influencing the benefit received from social groups are: education significant ($P<0.1$) and positively

related to benefit received from social interaction. Household size is also statistically significant (P<0.01) and negatively related to benefit derived from social group. Decision making index emphasizes the issue in executive membership as it is negatively related to social capital benefit and statistically significant (P<0.1). The highest proportion of monthly expenditure is spent on Education (39%), the proportion of expenses spent on housing is minimal relative to other basic needs of life (3.8%) while the least cost for an average household in the study area is spent on fuel. Overall, an average total of ₦33,864 was spent monthly by each household which is about ₦1,128/household/day irrespective of the household size. Based on categorization of household according to their welfare status, 58 per cent are non-poor, 23 per cent are moderately poor while 19 per cent are core poor.

The OLS estimate reveals that socio economic characteristics such as education and household size make significant contribution to percentage changes in household welfare. An addition of social capital dimensions to the model further reveals that decision making index and cash contribution index are statistically significant and both are negatively related to household welfare respectively. Also, there is an improvement in the adjusted R^2 from a value of 0.309 (OLS) to 0.376 in the 2SLS and the increase in the coefficient of social capital index in the 2SLS relative to the OLS estimate from -0.0291 to 0.3102. This increase in these two values implies the absence of significant reverse causality. This therefore confirms the exogeneity of social capital.

The study examined the effect of social capital on welfare of farming households in Ekiti State, Nigeria. The study provides empirical evidence that social capital and its dimensions have effect on household welfare. The disaggregation of social capital into six dimensions reveal that participation in decision making and cash contribution in social groups can influence household per capita expenditure and consequently improves its welfare. It is evidenced from the study that education can complement social capital in improving household welfare. The problem of endogeneity of social capital on household welfare was addressed using instrumental variable method which reveals that there is no reverse causality effect between social capital and household welfare

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Tables

4.1 Socio-economic characteristics of Farming Households and Local Level Institution

Socio-economic	Variables	Frequency	Percentage
Age	<20	11	5.9
	21-40	21	11.3
	41-60	97	52.1
	61 & above	57	30.6
Total		**186**	**100.0**
Gender	Male	143	76.9
	Female	43	23.1
Total		**186**	**100.0**
Household size	1-5	57	30.6
	6-10	127	68.3
	11-15	2	1.1
	Total	**186**	**100.0**
Education Status	No formal education	56	30.1
	Primary education	56	30.1
	Secondary education	51	27.4
	Tertiary education	23	12.4
	Total	**186**	**100.0**
Local Level Institution	Community Based Association	9.6	5.1
	Gender Association	4.3	2.3
	Age Group	32.6	17.5
	Religion Group	33.3	17.9
	Occupational Group	26.3	14.1
	Cooperative Societies	69	37
	Cultural Group	9	4.8
	Political Group	1.9	1.3
	Total	**186**	**100**

Source: Field survey May, 2011

Table 4.2 Distribution of Farming Household's Age and Social Capital Dimensions

Age Group (yrs)	Membership Density Index (%)	Heterogeneity Index (%)	Meeting Attendance Index (%)	Cash Contribution (₦)	Labour Contribution (man day)	Decision Making (index)	Aggregate Social Capital (index)
< 30	9.09 (7.90)	17.88 (11.57)	58.18 (27.85)	36.36 (200)	4.09 (9.00)	56.57 (11.61)	27.85 (7.71)
31-40	17.00 (9.91)	23.02 (16.93)	62.14 (30.16)	61.91 (750)	0.00 (0.00)	72.49 (20.37)	38.11 (13.29)
41-50	19.47 (7.65)	22.07 (12.28)	61.29 (22.71)	63.16 (1200.00)	1.53 (12.00)	80.03 (17.68)	40.19 (9.69)
51-60	22.53 (9.68)	23.62 (11.15)	73.95 (24.45)	95.76 (2550.00)	0.85 (6.00)	77.78 (17.99)	40.63 (10.26)
61-70	20.83 (10.12)	23.11 (12.58)	75.70 (23.62)	145.65 (3350.00)	1.85 (10.00)	77.78 (19.74)	38.19 (12.90)
>70	16.97 (11.59)	23.64 (15.74)	62.18 (27.27)	0.00 (0.00)	1.82 (6.03)	66.67 (21.66)	35.76 (14.18)

Figures in parentheses are standard deviation
Source: Field survey 2011

Table 4.3 Distribution of Household's Sex and Social Capital Dimension

Sex 0f House holds	Membership Density Index (%)	Heterogeneity Index (%)	Meeting Attendance Index (%)	Cash Contribution (₦)	Labour Contribution (man day)	Decision Making (index)	Aggregate Social Capital (index)
Female	17.46 (10.00)	25.04 (15.26)	58.00 (25.74)	44.19 (850)	0.58 (6.00)	68.22 (19.78)	37.18 (12.50)
Male	20.36 (9.82)	22.14 (11.79)	72.00 (24.73)	102.46 (7250.00)	1.64 (12.00)	77.78 (18.53)	38.98 (11.35)

Figures in parentheses are standard deviation
Source: Field survey 2011

Table 4.4 Distribution of Farming household size and Social Capital Dimensions

house holdsize	Membership Density Index (%)	Heterogeneity Index (%)	Meeting Attendance Index (%)	Cash Contribution (₦)	Labour Contribution (man day)	Decision Making (index)	Aggregate Social Capital (index)
1-5	19.33 (10.67)	20.82 (11.92)	74.14 (24.59)	88.59 (2525.00)	0.91 (9.00)	72.91 (18.19)	37.22 (11.48)
6-10	19.73 (9.57)	23.68 (12.94)	66.09 (25.69)	89.76 (5700.00)	1.62 (12.00)	76.90 (19.73)	39.15 (11.72)
11-15	30.00 (4.71)	21.67 (21.21)	92.00 (11.31)	0.00 (0.00)	0.00 (0.00)	77.78 (15.71)	43.15 (0.26)

Figures in parentheses are standard deviation
Source: Field survey 2011

Table 4.5 Distribution of Respondents Education level and Social Capital Dimension

Education groups (years)	Membership Density Index (%)	Heterogeneity Index (%)	Meeting Attendance Index (%)	Cash Contribution (₦)	Labour Contribution (man day)	Decision Making (index)	Aggregate Social Capital (index)
0	17.53 (10.08)	22.36 (13.96)	62.14 (25.89)	94.64 (450.00)	1.02 (10.00)	73.61 (20.71)	36.65 (12.46)
1-6	20.55 (9.60)	22.40 (11.65)	73.14 (26.00)	82.14 (400.00)	2.57 (12.00)	78.17 (19.87)	39.69 (11.42)
7-12	18.13 (9.60)	21.63 (11.69)	67.45 (25.87)	61.77 (725.00)	0.88 (9.00)	73.42 (18.33)	36.97 (10.91)
13-17	26.38 (8.03)	27.25 (13.91)	77.70 (18.91)	147.83 (450.00)	0.52 (6.00)	79.71 (15.22)	44.44 (9.57)

Figures in parentheses are standard deviation
Source: Field survey 2011

Table 4.6 Effects of Social Capital on Household Welfare

Variables	Basic Model	With additive Capital
Constant	Coeff t-value 0.5612*** (2.417)	Coeff t-value 0.4578** (3.143)
Sex of Household Head	-0.2134 (-0.0561)	-0.7422 (-0.2098)
Age of Household Head	-0.0997 (-0.1009)	0.0233 (0.2834)
Squared Age of Household Head	0.4131 (0.3112)	-0.248 (-0.1430)
Household size	-0.9553*** (-2.923)	-0.3112*** (4.7891)
Years of Education of Household Head	0.8662* (1.7891)	0.3267* (1.9291)
Marital status of Household Head	0.0034 (1.3091)	0.0345 (1.0109)
Household Membership Index	- -	-0.9132 (-0.984)
Meeting Attendance Index	- -	0.7742 (1.530)
Heterogeneity Index	- -	8.442 (0.232)
Decision Making Index	- -	-0.5431* (-1.713)
Cash Contribution Index	- -	-2.8210 (-1.685)
Labour Contribution Index	- -	-0.0312 (-1.025)
Number of Observation	186	186
R^2	0.289	0.348
Adjusted R^2	0.257	0.314
F-Statistics	5.412	8.356

*** Significant at 1% level, ** Significant at 5% level and * significant at 10% level
Source: Field survey 2011.

Table 4.7 Social Capital: Instrumental Variable Estimation

Instrument	Without Instrumental Variable (OLS)		With Variables (2SLS)	
Constant	Coeff t-value 0.6745***	(3.514)	Coeff t-value 0.2597	(4.092)
Sex of Household Head	-0.2298 (-0.0452)		-0.8712 (-1.2211)	
Age of Household Head	-0.0994 (-0.00023)		0.0471 (0.0219)	
Squared Age of Household Head	0.0661 (0.0005)		-0.1404 (-0.0041)	
Household size	-0.0166***	(-4.051)	-0.0065***	(-4.1091)
Years of Education of Household Head	0.7201*	(1.8711)	0.0091*	(1.9983)
Marital Status of Household Head	0.3120*	(2.1910)	-0.0789** (-2.2311)	
Social Capital Index	-0.0291 (-2.077)		0.3102**	(2.672)
Number of Observations	186		186	
R^2	0.323		0.396	
Adjusted R^2	0.309		0.376	
F-Statistics	8.643		9.478	

*** Significant at 1% level, ** Significant at 5% level and * significant at 10%

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