SOCIAL CAPITAL AND POVERTY REDUCTION IN NIGERIA

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CHAPTER ONE

Introduction

1.1   Background

The poverty situation in Nigeria is quite disturbing. Both the quantitative and qualitative measurements attest to the growing incidence and depth of poverty in the country. This situation however, presents a paradox considering the vast human and physical resources that the country is endowed with. It is even more disturbing that despite the huge human and material resources that have been devoted to poverty reduction by successive governments, no noticeable success has been achieved in this direction. The Human Development Report (HDR, 1999) reveals that Nigeria is one of the poorest among the poor countries of the world. Nigeria ranks 54th with respect to the human poverty index (HPI) - making it the 20th poorest country in the world. It is also ranked 30th in gender related development index (GDI) while occupying 40th position from below in its human development index (HD1).

In line with the above, the quantitative poverty assessment by the Federal Office of Statistics (FOS, 1999), based on the analysis of a series of national consumer surveys over a 16 year period (1980-1996), shows that the incidence of poverty rose drastically between 1980 and 1985 on one hand and between 1992 and 1996 on the other, but decreased in between 1985 and 1992. The 28.1 percent poverty incidence of 1980 translated to 17.7 million poor people in the country, whereas there were 34.7 million poor people in 1985 with an incidence of poverty of 46.3 percent. Despite the drop in the poverty incidence in 1992 to 42.7 percent, the population of the poor was 39.2 million, about 5 million more than 1985 figures. By 1996, 67.1 million people were in poverty with an incidence of poverty of 65.5 percent. The situation of poverty as at 2001 would have worsened, as there has not been any significant improvement in the quality of life (welfare) of the majority of the people. The bitter reality of the Nigerian poverty situation according to Okunmadewa (2001) is that more than 40 percent of Nigerians live in conditions of extreme poverty spending less than N320 per capita per month. This expenditure would barely provide a quarter of the nutritional requirements for healthy living.

Other indicators of poverty also showed a very deplorable situation for Nigeria, Infant and under-5 mortality were 217 and 147 per 1000 live births respectively while maternal mortality was 9 per 1000 live births in 1996. All these were critically above the average for developing countries and even for Sub-Saharan Africa. In addition, the preliminary health profile

figures for 1999 as prepared by the Federal Ministry of Health (FMOH) indicate the major causes of morbidity to include malaria which is 919 for 100,000; dysentery with 386 per 100,000; pneumonia with 146 per 100,000 and measles with 89 per 100,000. Gross primary school enrolment averaged 85.2 percent while adult literacy rate was 51 percent. Life expectancy, which was 54 years in 1990 and 52 in 1995, has dropped to less than 50 years since 1998. The foregoing indicates that poverty remains a development concern in Nigeria that requires urgent attention by all stakeholders.

1.2 **Problem Statement**

There is now an increasing recognition that poverty reduction should be the over arching goal of development in Nigeria. It is therefore not surprising that in recent time government and the civil society in Nigeria, with the support of the donor agencies have devoted considerable resources at reducing poverty. This gave rise to the 1994 comprehensive poverty assessment of the economy and the populace. The outcome of which led to the formulation of the draft national strategy for poverty alleviation code named "Community Action Programme for Poverty Alleviation" (CAPPA) in 1996. Others include the establishment of a national poverty reduction focused Family Economic Advancement Programme (FEAP) in 1997 and the Poverty Alleviation Programme of the present civilian government in 1999, and the National Poverty Eradication Programme in 2000, among others. However, these efforts at poverty reduction have largely remained unfelt by the poor. While the emphasis in most of the interventions is on provision of physical infrastructure to support the poor and the acquisition of human capital, there has been little or no consideration for the institutional development of local level institutions or mechanism to ensure delivery of support to the poor. The absence of such institutions and the weakness of existing ones largely disenfranchised the poor from participating in the decision making process of interventions and issues that affect their welfare. Some 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 in Nigeria. This recognition probably explains the promotion of group formation as an important requirement for the poor to benefit from some of the public instituted poverty reduction programme.

The contemporary question in Nigeria, however, is to what extent does social capital contribute to poverty reduction? How does membership of a social network assist in improving welfare? What type of social capital is welfare enhancing? Do poor people participate in social networks? Answers to these and other questions will largely assist in fashioning institutional strengthening to complement infrastructure provision and increase human capital development to empower the poor. Grootaert (1999) observes that emerging consensus concerning differences in economic outcomes at the level of the individual household or at the level of the state, cannot be fully explained by differences in traditional inputs such as land, labour and physical and human capital alone. According to him, there is a growing recognition of the roles of "social-capital" in affecting the well being of individuals, households, communities and nations. This recognition, that social capital is an important input in the production function of an individual or household has some implications. It suggests that institutional or social capital must complement human and physical capital before the full benefits of any development programme is derived.

Studies in Nigeria have shown that the poor derive more benefits from their membership of local associations compared with public instituted organisations. Besides, the effectiveness of the different organisations in alleviating poverty is well documented (See World Bank, 1996; Olayemi et al, 1999; Okumnadewa, 1998; and World Bank/DFID, 2000). For instance, the World Bank and DF1D in collaboration with the National Planning Commission carried out a National consultative and qualitative poverty assessment, tagged "Voice of the poor" in 1999 to feed into the World Development Report 2000/1. It was revealed from the study that across all the geopolitical zones of Nigeria, there is the absence of competent and responsive non-governmental organisations (NGOs). Instead, the poor refers to local community based organisations (CBOs) as the main safety net for their well being. The diversity of these CBOs testifies to their roles in social support networks for all the communities interviewed. Prominent among these social safety nets are religious groups, traditional leadership, educational institutions, women's group and traditional financial institutions among others. Since a key finding of the study is that poverty is linked to the inability of individuals and households to reciprocate and support other people, to build and use social capital within the community and the wider environment, the role of local level institutions in providing this opportunity to maintain reciprocity is crucial for the poor to be able to keep a sense of dignity in their lives. (World Bank/DFID, 2000),

The realisation of the potency of the local level institutions and associations in poverty reduction is no longer in doubt in the World as seen in the preceding paragraph. One may even be tempted to claim that the failure of the several interventionist poverty reduction programmes of the Nigerian government can be attributed largely to the neglect of social capital as an important input in poverty reduction. This is because studies such as Narayan and Pritchett (1997) in Tanzania and Grootaert (1999) in Indonesia have shown econometrically that the ownership of social capital by households has strong effects on household welfare. It was found that the magnitude of poverty reduction through social capital exceeds that of education (human capital) and physical capital owned by the households in their independent studies. Glewwe and van der Gaag (1988) and World Bank (1990) have, however, stated that the very first step at helping poor households out of their poverty is to understand the nature and extent of their poverty. This is because, if effective policies to reduce poverty are to be formulated and successfully implemented, more knowledge about the characteristics and correlates of poverty is crucial.

But up till now in Nigeria, there has not been any nationwide attempt to econometrically estimate the determinants of poverty in recent times despite several studies that have been done. A few of these are World Bank (1996), Onah (1996), Echeberi (1997) Ogwumike and Ekpeyong (1996), Anyanwu (l997), Odusola (1997) and Englama and Bamidele (1997), among others. These studies have been pre-occupied with identification and determination of the extent of poverty in Nigeria without touching the determinants. In fact, while some African countries have studies that have econometrically determined their poverty, there has not been any for Nigeria, (see for example Reardon and Taylor, 1996; in Burkina Faso; Coulombe and Mckay, 1996 in Mauritania and a host of others). The only exception, to the best of our knowledge in Nigeria, is Ogwumike (1987) and Omonona (2001). Ogwumike (1987) studied the impact of demographic and socio-economic variables on poverty among Nigerian households in 3 representative states out of the then existing 19 states in Nigeria and Omonona (2001) studied the impact of demographic, occupational, human capital, living condition and farm specific factors on poverty among farming households in Kogi state, Nigeria. There is still a general dearth of study on estimating the impact of demographic, human capital, occupational, locational, and physical capital on poverty among Nigerian households not to talk of the recently identified social capital.

Evident from the above are certain gaps in knowledge that this study intends to fill. First, given the huge geographical and cultural diversity of the country, and the fact that the country remains the largest in Africa in terms of population, a nationwide study, which incorporates all the diversity of the country, is justified. Second, the development of social capital as an over arching goal of the latest attempt at poverty reduction is premised on the results of qualitative studies. Since there are more robust quantitative techniques through the inclusion of social capital factors in the determinants of poverty and welfare, it will be necessary to apply this technique to the Nigerian situation. This is more so within the context of the findings by Narayan and Pritchett (1997) and Grootaert (1999). Third, the country is currently experimenting with community based poverty reduction programme (a social fund mechanism) in six pilot states spread over all the geopolitical zones of the federation. The empowerment of the community development organisations to take charge of their own development and the subsequent improvement of social capital is one of the major objectives of the programme. A comprehensive data, which include those on social capital, will surely be useful in actually determining the potency of the existing social capital and its functioning in alleviating poverty and enhancing welfare in the country. The outcome of this study will therefore serve a useful purpose in formulating national policies aimed at tackling the scourge of poverty and enhancing human welfare in Nigeria.

1.3   Objectives of the Study

The main objective of this study is to analyse the impact of social capital on the poverty status and welfare of Nigerian households. The specific objectives are to:

(i)   characterise the various dimensions of social capital based on household factors;

(ii)   present a poverty profile on the basis of social capital dimensions and household characteristics;

(iii)   establish the influence of social capital on poverty and welfare; and, -

(iv)   make policy recommendations based on the findings of the study.

1.4   Plan of the Report

The rest of the report is divided into four chapters. Chapter two is on literature review with details of theoretical framework, methodological debate and studies relating social capital to poverty. Chapter three details the methodology adopted for the study including sources of data, method of data collection and analytical framework. In chapter four, empirical results are presented. This chapter covers dimensions of social capital based on socioeconomic characteristics; the poverty profile by socioeconomic characteristics and the social capital dimensions; and the effect of social capital on welfare and poverty.

CHAPTER TWO

Literature Review

This chapter provides the theoretical and conceptual underpinning for the study through a review of literature.

2.1   Theoretical Consideration in Social Capital

In theory, local level institutions have been understood to play a major role in sustaining development process. These institutions, traditional and modern; at the community, local regional and national levels; and in the public, private and civil sectors, are the vehicles through which social change and social action occur. Social capital is the network of horizontal connections, which leads to mutual commitment and trust and enables people and their institutions to function effectively. Social capital resides in specific natures of social institutions, which are networks of social relationships, relationship among social institutions, and culturally legitimate normative values, which regulate intra, and inter-institutional relationships.

Social capital has been given many definitions arising from lack of conceptual clarity. Woolcock suggests that the concept of social capital "risks trying to explain too much with too little (and) is being adopted indiscriminately, adopted uncritically, and applied imprecisely"... (Lynch et al. 2000). Coleman (1990) defined it by its function, "it is not a single entity, but a variety of different entities having characteristics in common, they all consist of some aspect of a social structure, and they facilitate certain actions of individuals who are within the structure.On the other hand, Portes (1998) indicates that social capital stands for the ability of actions to secure benefits by virtue of membership in social network or other social structures. However, the commonly used definition is the one put forward by Robert Putnam who defines social capital as feature of social life, trust that enable participants to act together more effectively to pursue shared objectives (Baron et al. 2000).

Definitions vary but it is often understood to be a social resource, which is created through formal and informal relationships between people within a community. It describes the social environment that people live in, and is the collective resources to which individuals; families, neighbourhoods and communities have access.

Coleman (1990) opines that social capital can take three forms; firstly obligations and expectations which depend on the trustworthiness of the social environment, secondly the

capacity of information to flow through the social structure in order to provide a basis for action and thirdly the presence of norms accompanied by effective sanction. Grootaert (1997) and Collier (1998) also gave sharing of information among association members, the reduction of opportunistic behaviour (which is related to Coleman's sanction), and the facilitation of collective decision-making.

Trust has been found to be the most important of the three because information flow and sanctions cannot work alone to ensure that benefits of social capital is reaped by members of an association or a community. Halpern (1999) in his work "making democracy work" submits that areas with low social capital were ruled by the most unsuccessful governments and demonstrated greater inefficiency and corruption. However, successful regional governments ruled areas with high levels of social trust. In addition, Pretty and Ward (2001) suggests that trust is reinforced by sanctions, which may be applied to those who flout social norms or fail in their social responsibility.

Social capital operates at the macro, meso and micro levels. At the macro level, social capital includes institutions such as government, the rule of law, civil and political liberties e.t.c. There is overwhelming evidence that such macro level social capital has a measurable impact on national economic performance (Knack, 1999). At the micro and meso levels, social capital refers to the networks and norms that govern interactions among individuals, households and communities. Such networks are often given structure through the creation of local associations or local institutions. This study examines social capital at the micro level.

Putman (1993) discusses micro-level social capital in which individuals or households relate horizontally guided by associated norms and values to create externalities for the community. The externalities created are not always positive. James Coleman considers relations among groups, rather than individuals, which is characterized by both vertical and horizontal dealings within and among other entities. Vertical associations are characterized by hierarchical relationships and an unequal power distribution among members. An encompassing view of social capital is that of North (1990) who identified the social and political macro environment that shapes social structure and enables norms to develop. In addition to the largely informal and often local, horizontal and hierarchical relationships of the first two views, North focuses on institutions and argued that such institutions (e.g. the rule of law, political regime e.t.c) have a critical effect on the rate and pattern of economic development. A strong degree of

complementarity is believed to exist between horizontal and hierarchical associations and macro institutions, and that their co-existence maximizes the impact of social capital on economic and social outcomes. Moreover, a certain degree of substitution is also inherent to the interlocking aspect of the levels of social capital.

Putnam, (2000) and Grootaert (1999) believe that social capital has quantifiable effects on many different aspects of human. Citing several authors, the duo argue that the effects on different aspects of live include; lower crime rates (Halpern, 1999; Putman, 2000; Hermine, 2002), better health (Wilkinson, 1996), improved longevity (Putnam, 2000), better educational achievement (Coleman, 1988), greater levels of income equality (Wilkinson, 1996; Kawachi et al., 1997), improved child welfare and low rate of child abuse (Cote and Healy, 2001), less corrupt and more effective government (Putnam, 1995; Knack, 1999), dispute resolution in Albania (De soto et al, 2002) and enhanced economic achievement through increased trust and lower transaction cost (Fukuyama, 1995). Many case studies are also cited by Uphoff (1993), Narayan (1995), Grootaert (1997), and Krishna et al (1997)

A 1998 Nepal human development report has it that not all forms of social capital is human development – friendly. It is argued that educational institutions may intensify political, economic and social inequalities by facilitating entry and promotion of already priviledged groups. An elected legislature may coopt regulatory institutions and enhance the level of corruption. In addition, the family institution may institutionalize gender – based and age-based discriminations which impinge on capability formation. In order to forestall the above, he stressed that social institutions and cultural values should be analysed and that identification of social capital components should be done in a discriminating manner.

It is also stressed that social institutions are domains of multiple contestations, which may arise from contradictions built into networks of relationships, which comprise and define such institutions or may arise out of inter-group/inter-institutional contradictions e.g. contradictions between caste/ethnic or gender groups. Such loci of contestation is an entry points for identifying bottlenecks in the generation of social capital as well as for consciously organized collective actions geared towards generating enhanced social capital. Another way is to conduct mapping of the transformatory process to assist in designing and implementing collective action for providing additional impetus for accumulating social capital and for retarding the process of

depreciation of social capital. The households, kins, neighbours and community and sub-community groups are identified platforms where cooperation exists in a society.

The forms of social capital through which it exerts influence on development are structural social capital and cognitive social capital. The former facilitates information sharing and social networks and others social structures supplemented by rules, procedures and precedents. Cognitive social capital refers to shared norms, values, trust, attitudes, and beliefs. Cognitive type is more subjective and intangible while structural is relatively objective and externally observable construct (Uphoff 2000). The two forms of social capital can be, but are not necessarily complementary.

The channels through which social capital affects development includes several related elements such as information sharing, collective action and decision making, and reduction of opportunistic behaviour. Follwing from this, Grootaert and Bastealer (2002) submit that:

- participation by individuals in social networks increases the availability of information and lowers its cost;

- participation in local networks and attitudes of mutual trust make it easier for any group to reach collective action and implement collective action; and

- networks and attitudes reduce opportunistic behaviour by community members. (Grootaert and Bastealer 2002).

Social capital links together natural capital, physical capital and human capital. Unlike physical capital, social capital can accumulate as a result of its use and also, social capital has public good characteristics that have direct implications for the optimality of its production level. The common attributes which social capital shares with other forms of capital is that, it is costly to produce (e.g. requires investment in terms of time and effort and at times money) and an accumulated stock from which a stream of benefits flows. The nature of these benefits can differ. In Krishna and Uphoff's (1999) analysis of the watersheds in Rajarthan, the benefit is collective action to manage a common resource effectively. In Fafchamps and Minten's (1999) observation of traders in Madagascar, social capital reduces transactions costs and acts on an informal channel for acquiring insurance against liquidity risk. Reid and Salmen (2000) find that, in Mali, trust is the key factor in making agricultural extension successful. In Isham and Kahkonen's (1999) study of water projects in Indonesia, social capital increases the ability of villagers to organize to design and mange water supply systems. Pargal, Huq and Gilligam's (year) study of

solid waste removal in urban neighbourhoods, in Bangladesh finds a similar organizational benefit. Rose (1995) finds that, in Russia, social capital networks are the most important source of income security. Another example is the work of Maluccio et al (1999) in South Africa where the incidence of crime was found to be of direct relevance to the accumulation and erosion of social capital. These case studies make it clear that the benefits from the stock of social capital can flow either to communities or to individuals and households (Grootaert and Bastelear; 2002).

2.2 Characteristics of Social Capital

Distinction has been established between bridging, bonding and linking social capital. Bonding (which is exclusive) refers to relations amongst relatively homogenous groups such as family members and close friends and is similar to the notion of strong ties. Putnam (2000) lists examples of bonding social capital to include ethnic fraternal organisations and church based women's reading groups. Bridging (inclusive) social capital refers to relations with distant friends, associates and colleagues. Examples include civil rights movements and ecumenical religious organizations. These ties tend to be weaker and more diverse but more important in "getting ahead". Linking social capital refers to relations between individuals and groups in different social strata in a hierarchy where social statusdiffers and Woolcock (2001) extends this to include the capacity to leverage resources, ideas and information from formal institutions beyond the community.

Bonding social capital may have adverse effect of exclusion when it is strong. Ellot suggests, it creates a context for the growth of reactionary ideology such as sectarianism. This is a downside of the concept and is one of the many criticisms of Putnam's conceptualization of social capital. Another downside to social capital as against Putnam's assumption that it is a societal good lies in Halpern (1999) suggestion that organized crime or gangs involve a social work, which entails shared norms but do not constitute a societal good. Portes (1998) lists the downside of social capital as the exclusion of outsiders, restriction on individual freedom and a downward leveling of norms – a situation in which group solidarity is cemented by a common experience of adversity and opposition to mainstream society.

2.3 Methodological Debate

Measuring social capital is said to be difficult (Grootaert, 2002). There is a challenge in identifying a contextual relevant indicator of social capital and establishing an empirical correlation with relevant benefit indicator. This is because these social capital indicators differ both geographically and sectorally, and for this reason and due to the strong contextual nature of social capital, it is unlikely that a few "best" indicators that could be generalized for use everywhere can be arrived at. However the common approaches in use are those pioneered by Putnam (1993). The first focuses on membership of associations and the second focuses on membership of ethnic groups, neighbourhoods, or communities. Both were combined in the work of Grootaert in Burkinafaso. Characteristics of group membership were used by Maluccio et al. (1999) in South Africa. Indonesia, Kenyan, and countries of the Adean region also used the Putnam's approach. Bebbington and Carrol in their work in Andes, Ecuador, and Peru- employed a broader unit of measurement where internal relations were captured by measures of neighbour-based or kin-based networks and inter-community networks within the federation. Also, indicators of the links with higher-tier indigenous organizations, municipal and regional organizations, and support agencies captured external relations.

Grootaert and Bastelaer (2002) suggest three types of proxy indicators that should be used in social capital measurement. These are as follows: (i) membership in local associations and networks; (ii) indicators of trust and adherence to norms and (iii) an indicator of collective action. They claimed these three types of indicators measure social capital from different vantage points and provide a helpful framework for designing a measurement instrument. Grootaert (1999) in his separate work Social capital, Household welfare and Poverty in Indonesia" and Burkina Faso identified seven dimensions of the association through which social capital can effectively perform or fulfill its roles. The dimensions include: density of membership, heterogeneity index, meeting attendance, active participation index, membership dues, community initiation and mode of organization.

Schuller, (2001) notes that common measures of social capital examine participation such as membership of voluntary organizations, churches or political parties. This came from the understanding that social capital is the property of the group rather than the property of the individual. Cote and Healy (2001) submit that measures of SC should be comprehensive in their coverage if key dimension such as networks, values and norms, and should be balanced between

the attitudinal/subjective and the behavioural. They should also accommodate cultural specificity as opined by Robinson (1997).

Social trust has been used in many studies as a means of approximating levels of social capital. Halpern (1999) opines that there is need for a simple, "quick and dirty" measure and this can be solved in the systematic measuring of social trust. He considers it easy to measure, and to be associated with more policy-relevant outcomes than traditional measures of voluntary activity and association membership. Baron et al. (2000) submit that the practice of using single question about trust and linking them to broad measures of nation's economic performance is an example of poor social capital measurement. Although social capital is generally perceived as a community characteristic, it is usually measured by asking question from individuals and aggregating their replies. Portes and Landolt (1996) argue that collective social capital cannot simply be the sum of individual social capital . Baron et al. (2000) also make the point that social capital has been aggregated up across different levels and that the validity of social capital depends on its contextual connotation. They suggest that grossing up the number of people who belong to organizations indicates little about the strength of social capital if it is not accompanied by information on what people do as members. Another aspect of this is the difference between compositional (individual) and contextual (place) measurement. Green et al (2000) question whether a survey of individuals can properly distinguish between the collective characteristics of a neighbourhood and those of the individual. Using trust as example, they question whether trust should be measured as an individual characteristic (influenced by age and gender perhaps) which is taken from place to place as people move, or whether it is induced by the physical and social environment of a neighbourhood.

New Zealand Statistics suggests that adequate measurement of social capital would involve three types of measurement – population data, attitudinal data and participation data. Attitudinal data is required to determine what the case is and what the norms are when social capital is assumed that people share common goals and norms. Data on participation is needed so as to compare what is done with who does it. In addition, Spellberg (1997) suggest, one would need to measure a variety of institutions from the formal (courts) to the informal (families).

2.4   **Social Capital and the Poor**

Social capital has been found to have major impact on the income and welfare of the poor by improving the outcome of activities that affect them. It improves the efficiency of rural development programs by increasing agricultural productivity, facilitation, the management of common resources making rural tracting more profitable, and people or households to water, sanitation, credit and education in rural and urban areas. It is a key factor from recovering from ethnic conflict and coping with political transition. Finally, it can reduce poverty through micro and macro channels by affecting the movement of information useful to the poor and by improving growth and income redistribution at the national level (Grooteant and Bastelaer, 2002).

Grootaert, (2001, 1999) in his work in Indonesia, Bolivia and BurkinaFaso examine poor households' accumulation of social capital and the returns from it in terms of whether it provides them with higher returns than other assets and whether there are differential returns to social capital between the poor and the non-poor as well as what determine (i.e. variables) or is responsible for the differences. Indonesia, the social capital index for the richest quantile is about 30% higher than for the poorest quantile but about the same degree of inequality as for years of education. Land and physical assets are distributed much more unequally.

A probit model was estimated of the likelihood to be poor. The results for all three countries indicated that social capital does indeed significantly reduce the probability to be poor. In BurkinaFaso the average household with 1.8 memberships has a 7.36 percent points lower probability to be poor than a household with no membership. In Indonesia the average household with 5.5 memberships has a 7.26 percent points lower probability to be poor than household with no membership. Number of memberships and the internal heterogeneity of the association were found to be consistent with the findings. A further investigation of different dimensions of heterogeneity indicated that the economic dimensions, such as differences in economic status, education, and occupation dominated the result.

Quantile regression was also done. It estimates the regression line through given points on the distribution of the dependent variable and assesses whether certain explanatory factors are weaker or stronger in different parts of the distribution. Quantile regression was estimated at the 90th percentile and at the 10th percentile. The results indicate that in each country the returns to social capital are higher for the poor than for the rich. In the case of Indonesia, the result is

influenced by the index of participation in decision-making. This suggests that the poorest households in Indonesia benefit the most from a high level participation in the decision making of associations. The cash contribution score was only significant at 90th percentile suggesting that the rich "buy" their way into social capital while the poor have to work their way into social capital as revealed by the work contribution score.

Again, another investigation was done by splitting the sample according to the amount of land held by households. Returns to social capital by size of land holding between smallholders and others reveal that the returns in all the countries are higher for smallholders than for households with larger area of land. These indicate that membership in local associations reduce the probability to be poor.

CHAPTER THREE

Methodology

3.1 Sources of Data

The data for this study were obtained from the six pilot states of the World Bank assisted Community-based Poverty Reduction Project (CPRP) in Nigeria. The states are Abia, Cross River, Ekiti, Kebbi, Kogi, and Yobe. The data were mainly from primary sources through field survey. Following the Federal Office of Statistics (FOS) framework, and given the available budget, 10 enumeration areas were selected from 3 local government areas (LGAs) in each state. These LGAs are in the rural area of the states. Ten respondents were selected from each enumeration area, making a total of 100 respondents for each state. However, these respondents belonged to at least one social organization. Further, only 582 questionnaires of the total 600 for all the states were processed for the study. This gave a response rate of 97%. The data were collected by trained enumerators who speak local languages in each of the states between the months of July and September 2003.

The instrument used for data collection includes the following items:

(i)   Consumption expenditure - that is the amount spent on food, clothing and foot wear, housing, energy, education, health care, transport and communication by the household;

(ii)   Demographic characteristics of household members;

(iii)   Participation in local level institutions;

(iv)   Perceptions of community trust and collaborations; and,

(v)   Household economy and coping strategies.

3.2 Analytical Techniques

This study employed a number of analytical techniques. These techniques include descriptive and inferential statistics, Foster, Greer and Thorbecke (FGT 1984) weighted poverty measure and the multivariate regression models. The descriptive statistics used include tables, percentages and all forms of indices to characterise the dimensions of social capital and types of local level associations.

3. 2.1 **Poverty Measure**

The popularly used FGT weighted poverty index for quantitative poverty assessment was used for this study due to, among other things, its additive decomposability into sub-groups. The FGT measure for the ith subgroup ($P_{\alpha i}$,) is given below:

The main analytical technique used for this study is the Foster, Greer and Thorbecke (FGT) weighted poverty index as shown below:

$$P_{\alpha i}^{i} = \frac{1}{n} \sum_{i=1}^{q} \left[(z - y) \Big/ Z \right]^{\alpha}$$

$$when \quad \alpha = 0, \quad P_0 = \frac{1}{n} \sum_{i=1}^{q} \left[(z - y) \Big/ Z \right]^{0} = \frac{q}{n} \quad \rightarrow Poverty \ incidence \ or \ head \ count$$

$$\alpha = 1, \quad P_1 = \frac{1}{n} \sum_{i=1}^{q} \left[(z - y) \Big/ Z \right]^{1} \quad \rightarrow Poverty \ gap \ or \ depth$$

$$\alpha = 2, \quad P_2 = \frac{1}{n} \sum_{i=1}^{q} \left[(z - y) \Big/ Z \right]^{2} \quad \rightarrow Poverty \ severity$$

where

n   =   number of households in a group

q   =   the number of poor households

z   =   poverty line

y   =   the per capita expenditure (PCE) of the ith household; and,

α   =   degree of poverty aversion

The FGT measure for the whole group or population was obtained using

$$P_{\alpha} = \sum_{i=1}^{m} P_{\alpha i} \, n_i / n$$

Where P_{α} is the weighted poverty index for the whole group, m is the number of sub groups while n and n_i are the total number of households in the whole group and the ith subgroup respectively.

The contribution (K.;) of each sub-group's weighted poverty measure to the whole group's weighted poverty measure will be obtained by using

$$K = n_i P_{\alpha i} / n P_{\alpha}$$

The poverty line was obtained using the two-thirds of the mean per capita household expenditure.

3.2.2 **Determinants of Welfare and Poverty**

Social Capital and Household Welfare

This study benefited from the analytical framework earlier applied by Narayan and Prichett (1997) and Grootaert (1999). Essentially, the customary or conventional model of household economic behaviour under constrained utility maximization was used to relate 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 decision. The model is as follows:

$$lnE_i = a + \beta SC_i + \gamma HC_i + \delta OC_i + \in X_i + \eta Z_I + u_i$$

Where E_i = Household expenditure per capita of household i

      SC_i = Household endowment of social capital

      HC_i = Household endowment of other assets

      X_i = a vector of household characteristics

      U_i = error term

The key feature of the model is the assumption that social capital is truly "capital" i.e. 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. The effect of destruction of social capital is evident in the work of Rose (1995) on Russia and former Yugoslavia.

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 SC_i was arrived at 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 (Grootaert, 1999; and Grootaert et al 2002).

In order to test whether social capital is truly capital, the method of instrumental variable was used. In this instance, we identified those variables that are determinants of social capital but not household welfare (nor are they determined by household welfare. Following Grootaert (1999) and Narayan and Prichett (1997), the instrumental variable used is the index of trust. Though this may not be a perfect instrument, it at the least provides the direction of causality between social capital and household welfare. If social capital is truly capital, the coefficient of the instrumental variable (trust) should be higher than what is obtained for the actual social capital variable in the OLS estimation.

The Tobit regression, a hybrid of the discrete and continuous dependent variable, was used to determine the impact of the explanatory variables on the probability of being poor.

The model is expressed following Tobin (1958) as adopted by Omonona (2001) below:

$$q_i = P_1 = f(sc, he, oc, hh, re) + e_i \qquad \text{if } P_1 > P_1^* \qquad 2.1$$
$$= 0 = f(sc, he, oc, hh, re) + e_i \qquad \text{if } P_1 \leq P_1^*$$
$$i = 1,2,3 \ \ldots\ldots\ldots\ldots\ldots 582$$

Where q_i is the dependent variable. It is discrete when the households are not poor and continuous when they are poor. P_1 is the poverty depth/intensity defined as $(Z - Y_i)/Z$ where Z is the poverty line, and Y_i is per capita household expenditure (PCE). The poverty line (Z) is the two-thirds of the mean per capita household expenditure ($^2/_3$ MPCE). P_1^* is the poverty depth when the poverty line (Z) equals the expenditure per capita (here $P_1^* = 0$).

Variables Definition

(A)   The social capital variables that were used in the regression analysis include:

The indices used are density of membership, heterogeneity index, meeting attendance index, cash contribution, labour contribution and decision making index. The measurement of these six social capital indices is as explained below. This follows the approach used by Grootaert et al (2002). The measurement of each is as described below.

1. **Density of membership:** this is captured by the summation of the total number of associations to which each household belongs. In other words, the membership of associations by individuals in the household is summed up.

2. **Heterogeneity index:** this is an aggregation of the responses of each household to the questions on the diversity of members of the three most important institutions to the households. On each of the three associations, each household answered questions on whether members live in same neighbourhood, are same kin group, same occupation, are of same economic status, are of same religion, same gender, same age group and same occupation. Hence, for each of the factors a yes response is coded 0while no response is coded 1 A maximum score of 10 for each association represents the highest level of heterogeneity. The scores by the three associations for each household are then divided by the maximum score of 30 to obtain an index. This index is then multiplied by hundred (a zero value represents complete homogeneity while 100 represents complete heterogeneity).

3. **Meeting attendance index:** this is obtained by summing up the attendance of household members at meetings and relating it to the number of scheduled meetings by the associations they belong to. This value was then multiplied by 100.

4. **Cash contribution:** This was obtained by the summation of the total cash contributed to the various associations which the household belong. The actual cash contribution for each household is rescaled by dividing this amount by the maximum fee amount in the data and multiplying the resultant fraction by 100.

5. **Labour contribution:** this is the number of days that household members belonging to institutions claimed to have worked for their institutions. This represents total number of days worked by household members. This is alsorescaled to 100 using the same process as for cash contribution.

6. **Decision making index:** this was calculated by summation of the subjective responses of households on their rating in the participation in the decision making of the three most important institutions to them. The responses were averaged across the three groups and multiplied by 100 for each household.

Aggregate social capital index: this is obtained by the multiplication of density of membership, heterogeneity index and decision making index (Following Grootaert 1999).

(B)   The human capital variable was measured by the average years of formal education of the head of the household.

(C)   The household characteristics used are:

    (i)   Marital status of household head (D = 1 if married, 0 if otherwise)

    (ii)   Household size (actual number of people in the household)

    (iii)   Gender of household head (D=l if male, 0 if otherwise)

    (iv)   Age of household head in years

    (v)   Age of household head square to capture the life cycle of household welfare.

    (vi)   Primary occupation of household head (D=l if farming, 0 if otherwise)

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter focuses on the empirical results for the study. The chapter is in three parts. These are: dimensions of social capital by socioeconomic characteristics; poverty profile by socioeconomic characteristics and social capital dimensions; and effect of social capital on welfare and poverty.

4.1. Dimensions of Social Capital and Socio-economic Characteristics of the Sampled Households

4.1.1 Socio-economic Characteristics of the Sampled Households

The households included in the sample have varying socio-economic characteristics. The distribution of the sample based on the characteristics is shown in Table 4.1 below.

Table 4.1 Distribution of Households based on selected socio-economic characteristics.

Characteristics	Frequency	Percentage
(i) Sex of household head		
Male	523	89.86
Female	59	10.14
(ii) Age of household head (years)		
21-40	210	36.08
41-60	308	52.92
Above 60	64	11.00
Average	46.3 years	
(iii) Years of formal education of Household head		
0	139	23.88
1-6	307	52.75
7-12	113	19.42
Above 12	23	3.95
Average	4.4 years	
(iv) Occupation of household head		
Farming	405	69.59

	Non-Farming	177	30.41
(v)	Household size		
	1-4	126	21.65
	5-10	305	52.41
	Above 10	151	25.94
	Average	8.5 persons	9 persons

Source: Computed from Field Survey, July - September, 2003

From table 4.1, households headed by males, persons aged between 41 and 60 years, persons with between 1 and 6 years of formal education and those engaged in farming are in the majority. On the other hand households headed by females, persons aged above 60 years, persons with between 7 and 12 years of formal education and persons engaged in non-farming activities are in the minority. The average values of the age and years of formal education of household head are 46.3 years and 4.4 years respectively. Those households with between 5 and 10 persons constitute about half of the sample while those with less than 5 persons constitute about one fifths of the sample. However those households with more than 10 members represent one-quarter of the sample. The average household size in the study area was 9 persons. Table 4.2 provides the summary statistics of the socioeconomic variables.

Table 4.2: Summary Statistics of the Socioeconomic variables

Social Capital	Mean	Median	Standard Deviation
Sex of household head	0.8986	1.00	0.3021
Age of household head	46.26	45.00	11.85
Years of formal education of household head	4.42	4.00	4.09
Occupation of household head	0.3041	.000	0.46
Household size	8.47	7.00	5.36

Source: Field survey, July-September, 2003

4.1.2. **Dimensions of Social Capital**

Six dimensions of social capital were studied. These are: cash contribution; labour contribution; decision-making index; meeting attendance index; heterogeneity index and percentage of members of household belonging to local level institutions (LLIs). Table 4.3 presents the summary statistics for each of these dimensions. An average household with about 9 individuals belongs to at least 3 associations and has 58.7 percent index of participation. In addition, there is moderate level of heterogeneity in the associations to which households belong at 51.81. Meeting attendance index of 10.27 represents only one sixth of the maximum attendance recorded for the households. There seems to be low cash and labour contribution score. Of the maximum 100 score, the cash and labour contribution scores average 12.3 and 5.9 repectively.

Table 4.3: Summary Statistics of the Social capital dimensions

Social Capital	Mean	Median	Standard Deviation
Household memberships in association	3.11	3.00	3.19
Index of participation	58.71	66.67	27.94
Heterogeneity index	51.81	56.67	34.12
Meeting attendance index	10.27	8.33	8.31
Cash contribution score	12.29	4.55	17.30
Labour contribution score	5.90	0.80	11.39

Source: Field survey, July-September, 2003

These various dimensions of social capital are further presented based on the specific characteristics of the household presented in table 4.1.

4.1.3 Socio-Economic Characteristics and Dimension of Social Capital

Sex of Household head and Dimensions of Social Capital

The table below shows the mean values of the six dimensions of social capital based on the sex of the household heads.

Table 4.4: Sex of Household Head and Social Capital Dimension

Social capital dimension	Sex of Household heads	
	Male	Female
Cash contribution (naira)	15434.48	18059.32
Labour contribution (days)	172.69	36.05
Decision making index (G)	57.76	66.95
Meeting attendance index (%)	59.33	65.18
Heterogeneity index (%)	51.46	54.92
Percent of household members belonging to LLIs.	37.20	40.85
Total	1889.74	2269.50

Source: Computed from Field Survey July - September, 2003.

From table 4.4, the female-headed households have higher values of social capital in all its dimensions with the exception of labour contribution than their male counterpart. The higher labour contribution of male-headed household could be attributed to their higher household size and lower mean per capita expenditure on LLIs. It is surprising that though the female-headed households have lower average years of formal education, they have higher social capital values for almost all the dimensions. This may not be unconnected with the fact that majority of the women are into non-farming activities especially trading which necessitates that they belong to various occupational associations in order to promote their business and protect their interest.

Age of Household head

The dimensions of social capital based on the age of the household head are presented in table 4.5.

The table reveals that as one move from the lowest to the highest age group there is an increase in the cash contribution, labour contribution, decision-making index, meeting attendance index and the heterogeneity index. As for the percent of household members belonging to local level institutions, and the per capita expenditure on LLIs, they decrease with age of the household head. The cash contribution of those headed by aged persons is highest because they are likely to have household members who are old enough to be working and hence make cash contribution to the local level institutions they belong. The same is true for labour

contribution. These households headed by persons aged above 60 years have higher household size than others, hence contribute more labour.

Table 4.5: Age of Household Head and Social Capital Dimensions

Social Capital dimension	Age of Household Head (years)		
	21-40	41-60	Above 60
Cash contribution (naira)	12562.33	16432.91	22473.59
Labour contribution (days)	67.64	207.80	222.45
Decision making index (G)	54.44	60.61	63.54
Meeting attendance index (%)	53.23	64.05	61.93
Heterogeneity index (%)	53.09	50.52	53.80
Percent of household members belonging to LLIs.	44.63	36.46	31.07

Source: Computed from Field Survey July - September, 2003.

Years of formal education of household head and social Capital Dimensions
    The social capital dimensions based on the years of formal education of household head is shown in table 4.6.

Table 4.6: Years of formal education of household head and social capital dimension

Social capital dimensions	Years of formal education of household head			
	0	1-6	7-12	Above 12
Cash contribution (naira)	14230.02	16672.97	14864.89	15713.91
Labour contribution (days)	32.44	49.32	76.86	117.87
Decision making index (G)	59.59	58.63	55.75	68.84
Meeting attendance index (%)	58.00	61.15	52.75	72.2
Heterogeneity index (%)	51.20	51.17	52.98	58.41
Percent of household members belonging to LLIs.	24.60	41.77	38.75	75.89

Source: Computed from Field Survey Data July - September, 2003

All the social capital dimensions seem to increase as the level of education of the household head increases, from no formal education to more than 12 years of formal education. The pattern of cash contribution is due to the fact that ability to earn money from paid employment rises with level of education. Infact most of those households with the head having above 12 years of formal education are engaged in non-farming activities. The ability to make informed decisions in LLIs is directly related to the level of education. Households headed by persons with above 12 years of formal education know the importance of attending meetings. Also the more educated a person heading a household is, the easier it is to get associated with people of other cultures, beliefs, religions etc in a group.

Occupation of Households head and Social Capital Dimensions

The various dimension of social capital based on whether a household head is primarily engaged in farming activities or non-farming activities is presented in table 4.7.

Table 4.7: Occupation of Households Head and Social Capital Dimensions

Social capital dimension	Occupation of Household Head	
	Farming	Non-farming
Cash contribution (naira)	13919.75	16478.86
Labour contribution (days)	191.55	144.54
Decision making index (G)	58.23	59.79
Meeting attendance index (%)	57.45	65.83
Heterogeneity index (%)	53.93	46.97
Percent of household members belonging to LLIs.	35.82	42.52

Source: Computed from Field Survey Data July - September, 2003.

When the social capital dimensions of those households headed by persons primarily engaged in farming are compared with their non-farming counterpart, there is a mixed result. While the cash contribution, decision making index, meeting attendance index and percentage of members of households belonging to local level institutions are higher for households headed by persons primarily engaged in non-farming activities, the reverse is the case for labour contribution and heterogeneity index that are higher for households headed by those primarily engaged in farming.

Household size and Social Capital Dimensions

The social capital dimensions based on the size of the households is presented in table 4.8.

Table 4.8: Household size and social capital dimensions

Social capital dimension	Household size		
	1-4	5-10	Above 10
Cash contribution (naira)	19268.03	13818.99	16488.23
Labour contribution (days)	37.37	78.58	242.25
Decision making index (G)	61.81	57.68	58.17
Meeting attendance index (%)	62.73	56.55	64.35
Heterogeneity index (%)	53.81	51.85	50.04
Percent of household members belonging to LLIs.	69.40	40.20	29.88

Source: Computed from Field Survey Data July - September, 2003.

The above table shows that average cash contribution, decision making index, heterogeneity index and percentage of members of households belonging to LLIs tend to decrease as the household size increases. Hence, their values are highest for households with 1-4 members and lowest for those households with more than 10 members. To the labour contribution, this value rises with the size of the household. Households with 1-4 members have about 37 days of labour while those households with more than 10 persons have 242 days of labour contribution. The meeting attendance seems not to follow a definite pattern. It was 62.73 percent for households with 1-4 members, 56.55 percent for those with 5-10 members and 64.35 percent for those with more than 10 members.

4.2 Poverty Profile by Socioeconomic Characteristics and Social Capital Dimensions

4.2.1. **Expenditure Pattern of the Sampled Households and Derivation of the Poverty Line**

The very first step in the analysis of poverty is the determination of the poverty line, threshold that separates the non-poor from the poor. The per capita expenditure (PCE) was used to determine this threshold or the value of expenditure required on food and non-food items for a healthy living by a person. The table below shows the distribution of PCE by deciles.

Table 4.9: PCE Distribution of Deciles

Decile	Mean PCE	Expenditure distribution (%)
1	483.31	2.51
2	782.30	4.06
3	999.79	5.18
4	1174.91	6.09
5	1877.37	9.74
6	2421.35	12.56
7	2120.88	13.59
8	2810.74	14.68
9	2951.49	15.31
10	3119.14	16.28
Total	19282.35	100
Mean	1928.24	
$^2/_3$ MPCE	1285.49	

Source: Computed from Field Survey Data July - September, 2003.

The table shows that households in the first decile have a mean PCE of ₦483.31 monthly, representing only 2.51 percent of the total mean PCE for the study area. This mean PCE rose steadily from the first decile to the tenth decile, with a mean PCE of N3119.14 that constitutes 16.28 percent of the total mean PCE. The table shows that the mean PCE for the sample was ₦1928.24 from where a poverty line of ₦1285.49 was obtained.

4.2.2 Expenditure Shares

The share of the total expenditure that goes into food and non-food items vary as we more from one PCE decile level to another. The food and non-food expenditure share is presented by deciles in the table below.

Table 4.10: Expenditure shares of food and non-food items by deciles

Decile	PCE	Food Share
1	483.31	0.6098
2	782.30	0.5827
3	999.79	0.5577
4	1174.91	0.5013
5	1877.37	0.3155
6	2421.35	0.2478
7	2620.88	0.2289
8	2810.74	0.2135
9	2951.49	0.2033
10	3119.14	0.1926

Source: Computed from Field Survey Data July - September, 2003.

From the table, we observe that food share decreases from the first decile to the tenth while that of the non-food shares increases from the first decile to the tenth decile. The observed pattern of the food share conforms to Engel's law, which states that as the amount of income/expenditure increases, the proportion of the income/expenditure spent on food will decrease. As one moves from the first decile to the tenth on the table, there is an increased progression of income/expenditure. Hence, about 61 percent of expenditure went into food consumption while the remaining 39 percent went into the consumption of non-food items for households in the first expenditure decile. By the tenth decile, about 19 percent of the PCE went to food consumption while about 81 percent of the PCE went into non-food consumption.

4.2.3. **Poverty Profile of Sampled Households**

The decomposition of poverty based on several characteristics was done in order to relate poverty to changes in those characteristics. Two types of characteristics were considered. These are socio-economic and social capital factors. The poverty profile on the basis of socio-economic characteristics of the sampled household is shown table 4.11. From table 4.11, households headed by male persons have higher poverty levels with respect to incidence, depth and severity than those households headed by female individuals. Infact, the male headed households contributed between 92 and 94 percent of poverty experienced by the households while the

female headed households contributed between 6 and 8 percent of the poverty experienced by the households.

As for the age of the household head and poverty, there is an increase in poverty as the age of the household increases. The poverty incidence, depth and severity are lowest for those households whose heads are aged between 21 and 40 years and highest for households headed by persons aged above 60 years.

Table 4.11: Poverty and Socioeconomic Variables

Variables	N	P_o	P_1	P_2	Contribution to		
					P_o	P_1	P_2
(i) Sex of Households							
Male	523	0.4417	0.1368	0.0630	0.97	0.93	0.92
Female	59	0.2712	0.0921	0.0486	0.06	0.07	0.08
ii) Age of household heads							
21-40	210	0.3619	0.1083	0.0489	0.31	0.30	0.29
41-60	308	0.4123	0.1286	0.0582	0.52	0.51	0.50
Above 60	64	0.6563	0.2283	0.1185	0.17	0.19	0.21
iii) Years of formal education	139	0.4676	0.1581	0.0791	0.26	0.28	0.31
0	307	0.3811	0.1195	0.0553	0.48	0.48	0.47
1-6	113	0.4479	0.1489	0.0664	0.22	0.22	0.21
7-12	23	0.3913	0.0643	0.0142	0.04	0.02	0.01
Above 12							
iv) Occupation of household head	405	0.4346	0.1240	0.0543	0.72	0.65	0.61
Farming	177	0.3898	0.1512	0.0779	0.28	0.35	0.39
Non-farming							
v) Household size							
1-4	126	0.0952	0.0243	0.0095	0.05	0.04	0.03
5-10	305	0.4295	0.1181	0.0505	0.53	0.47	0.43
Above 10	151	0.6755	0.2511	0.1271	0.42	0.49	0.54

Source: Computed from Field Survey Data (July - September, 2003).

The years of formal education of household head also influence the level of poverty. Households whose heads have no formal education have higher poverty levels than those households headed by persons that have achieved one level of formal education or the other. The table also shows that those households with heads primarily engaged in farming are poorer than those engaged in other occupations. In addition, the farming households contribute at least three-fifths of the poverty experienced by households in the study area.The size of the household also affects the level of poverty as higher household size depresses the per capita expenditure (PCE). From the table households with highest household size are the poorest and they contribute most to poverty while those with the smallest household size are least poor. The profiling of poverty status of the sampled households based on social capital factors can be seen in table 4.12

Table 4.12: Poverty and Social Capital Variables

Variables	N	P_o	P_1	P_2	Contributions to		
					P_o	P_1	P_2
Cash contribution (N)							
Below 1000	135	0.6148	0.2260	0.1162	0.34	0.40	0.44
1000-9999	216	0.5278	0.1728	0.0716	0.47	0.48	0.46
10000-29999	136	0.1764	0.0316	0.0108	0.10	0.06	0.04
30000-49999	48	0.2708	0.0543	0.0259	0.05	0.03	0.03
50000 and above	47	0.2340	0.0473	0.0201	0.04	0.03	0.03
Labour contribution (days)							
Below 10	355	0.4225	0.1342	0.0607	0.61	0.62	0.60
10-29	119	0.4288	0.1536	0.0771	0.21	0.24	0.26
30-49	54	0.4259	0.1047	0.0481	0.09	0.07	0.07
50-69	25	0.3600	0.0519	0.0105	0.04	0.02	0.01
70 and above	29	0.4138	0.1419	0.0756	0.05	0.05	0.06
Decision making index							
Below 10	39	0.3590	0.0913	0.0349	0.06	0.05	0.04
10-29	35	0.4571	0.1265	0.0502	0.07	0.06	0.05
30-49	67	0.4627	0.1196	0.0429	0.13	0.10	0.08
50-69	271	0.4797	0.1728	0.0846	0.53	0.61	0.64
70 and above	170	0.3176	0.0831	0.0405	0.22	0.18	0.19
Meeting attendance index							

Below 10	7	0.5126	0.1481	0.0628	0.25	0.23	0.21
10-29	32	0.4589	0.1639	0.0819	0.55	0.62	0.66
30-49	119	0.3030	0.0697	0.0261	0.16	0.12	0.10
50-69	292	0.2500	0.469	0.0200	0.03	0.02	0.02
70 and above	119	0.2857	0.1137	0.0453	0.01	0.01	0.01
Heterogeneity index (%)							
Below 10	30	0.3667	0.0994	0.0421	0.04	0.04	0.04
10-29	77	0.6364	0.2551	0.1302	0.20	0.26	0.28
30-49	119	0.3277	0.1083	0.0575	0.16	0.17	0.19
50-69	190	0.3579	0.0913	0.0372	0.28	0.23	0.21
70 and above	166	0.4699	0.1452	0.0638	0.32	0.31	0.29
Number of members belonging to LLIs							
Below 3	65	0.4769	0.1422	0.0717	0.13	0.12	0.13
3-4	307	0.4560	0.1563	0.0747	0.57	0.62	0.64
5 and Above	210	0.3524	0.0940	0.0391	0.30	0.26	0.23

Source: Computed from Field Survey Data (July - September, 2003).

As can be seen in the table, the extent of poverty is indirectly related to the level of cash contribution. Those households whose cash contribution to their various local level institutions (LLIs) is smallest have the highest poverty incidence, depth and severity. It is those households that have higher levels of income that can make large amount of cash contribution to their LLIs. Hence, those individuals in these households are not likely to be poor.

The decomposition of poverty based on the days of labour contribution to the LLIs does not show much marked difference. One observes that poverty is higher for those households that have fewer days of labour contribution and they contribute much more to poverty than those households contributing 50 or more days of labour.

The decision making index of the households in the LLIs shows that those households with the lowest and highest decision-making index have lower poverty than those households with intermediate (10 to less than 70 percent) index for decision-making. This may be so because those with very high decision-making index are likely to be most-committed to the course of the LLIs. As for those with very low value of decision-making index, they seem not to be committed to the activities of the LLI, and hence, lower social capital, leading to reduction in their welfare.

Being a member of LLIs is a necessary condition for poverty reduction but not a sufficient condition. The table shows that the higher the meeting attendance index by members, the more the participation in the LLI activities, hence an increase in social capital leading to a reduction in poverty. Also, households with lower attendance index at meetings contributed more to poverty than those with higher index for meeting attendance.

The heterogeneity index does not follow a definite pattern. While those households with less than 10 percent of heterogeneity index have low poverty levels, those with 10-29 percent have the highest poverty. Thereafter, there is a drastic drop in poverty levels as the heterogeneity of the members of LLIs increases.

Lastly, households with lower number of members belonging to LLIs have higher poverty incidence and vice versa. Hence, as the number of members of households belonging to LLIs increases, the poverty incidence decreases. The pattern for poverty depth and severity is not clear based on the number of members of households belonging to LLIs. While poverty depth and severity are lowest for households with 5 and more members belonging to LLIs, they are highest for those with less than 3 members. This shows that the higher the number of members belonging to LLIs, the more likely is for such household to have more social capital, thereby reducing poverty.

4.3 Social Capital and Household Welfare

4.3.1 Effect of Social Capital on Household Welfare

This section provides the results of the impact of social capital on welfare using the analytical framework proposed in section three. Table 4.13 shows the effect of human capital, multiplicative social capital and the additive social capital variables on household welfare proxied per capita expenditure. The use of both the multiplicative social capital and additive social capital indices is premised on the fact that conceptual and theoretical underpinnings of social capital are not as develop to proffer justification for the use of one method instead of the other. However, Grootaert *et al.*(2002) note that the two approaches are common in literature. For instance, Narayan and Prichett (1997) and Grootaert (2001) used the approaches. These authors conclude that additive and interactive variables are valid approaches for introducing social capital in household behavioural model.

In the first column of table 4.13 is presented the basic model which captures household behaviour. This model reveals that about 18.9 percent of the variations in household expenditure per capita are accounted for by the specified human capital and demographic factors. Both types of factors have significant impact on the welfare status of households as typified by per capita expenditure. In particular, while larger household size reduces the welfare status, being a female, engaging in farming and being educated significantly improves the welfare status of the of the households.

The second column of the table indicates the situation with the introduction of a multiplicative social capital variable. This index is arrived at through the combination of the number of households' memberships of association, heterogeneity index and the active participation index. The resultant index is renormalized to maximum value of 100. The inclusion of the multiplicative variable increases the explanatory power of the model to 19.1 percent or 0.2 percentage points. The social capital index has significant effect on household welfare. At mean social capital index of 12.90, the coefficient of the variable shows that a one unit increase in social capital (i.e.7.8 percent rise) would increase household per capita expenditure by 0.57 percent. On the other hand, a one unit increase in the level of education i.e. additional year of education (which corresponds to 22.1 percent increase in the average years of education of households) would lead to 8.1 percent increase in per capita expenditure. This result suggests that being educated and accumulating social capital would improve the welfare status of households.

In the third column of table 4.13, the additive social capital variables are variables are included. These variables are: number of membership, index of participation, heterogeneity index, meeting attendance, cash contribution score and labour contribution score. The heterogeneity index also include its squared form to capture the fact that heterogeneity of association can be a source of information for improved welfare status and can also be a source of conflict between members within the groups. The new model improves the explanatory power of the model from 19.1 9ercent to 30.4 percent. The result indicates that major effects of social capital are attributable to heterogeneity and meeting attendance. In departure from Grootaert et al. (2002), additional membership of household in a local institution does not lead to improvement in welfare. Cash contribution score and labour contribution score also have significant effect on the welfare status of households. Following from the above, a one unit

increase in the heterogeneity index would lead to 0.27 percentage increase in household welfare while similar increase in meeting attendance would lead to 0.24 percentage increase in welfare. By and large, it would appear these two variables are complimentary. This is because as pointed out by some authors, heterogeneity can enhance flow of information as people of diverse background come together in group. Further, the dissemination of information to members can only be easier when members of associations attend meetings. A unit rise in both cash contribution score and labour contribution score would induce a very low (0.9 and 0.7 respectively) but significant improvement in per capital expenditure.

In order to guide against the likelihood of the cash contribution being endogenous to the system, this variable was removed from the dimensions of social capital. The results are indicated in column 4 of table 4.13. In addition to the significant variables in column three, the index of participation becomes significant. This suggests that cash contribution score may be masking the effect of active participation in activities of the local level institutions. The results also indicate that the coefficients of most of the variables increased from their initial level when cash contribution score is included as one of the explanatory variables. However, the explanatory power of the model declined to about 24 percent.

Table 4.13: Social capital and Household Welfare

	Basic Model	With Multiplicative social capital index	With additive social capital variables	With additive social capital Variables*
Intercept	7.4005 (23.35)	7.3645 (23.18)	6.8535 (21.67)	6.8152 (20.69)
Sex of Household Head	0.6009 (5.40)	0.6181 (5.57)	0.6903 (6.65)	0.6872 (6.49)
Age of Household Head	0.2867 (52.62)	0.2832 (50.35)	0.2406 (33.31)	0.2372 (32.35)
Squared age of Household head	-0.0027(-38.50)	-0.0027(-37.56)	-0.0023(28.45)	-0.0023(-27.52)
Household size	-0.0553 (-7.54)	-0.0548 (-7.40)	-0.0547 (-7.58)	-0.0567 (-7.72)
Occupation	0.2636 (3.47)	0.2573 (3.40)	0.2377 (3.37)	0.2410 (3.34)
Years of Education of Household Head	0.1008 (2.27)	0.0814 (1.81)	0.0836 (2.02)	0.0888 (2.10)
Social capital index	-	0.0057 (2.36)	-	-
Household memberships in association	-	-	0.0114 (0.96)	0.0139 (1.16)
Index of participation	-	-	0.0012 (0.97)	0.0027 (2.31)
Heterogeneity index	-	-	0.0278 (5.10)	0.0305 (5.49)
Squared Heterogeneity index	-	-	-0.0003 (-4.33)	-0.0003 (-4.67)
Meeting attendance index	-	-	0.0241 (5.85)	0.0256 (6.11)
Cash contribution score	-	-	0.0093 (4.91)	-
Labour contribution score	-	-	0.0070 (2.36)	0.0081 (2.71)
Number of observation	582	582	582	582
R^2	0.1885	0.1914	0.3038	0.2437
	22.26	19.40	19.06	15.28

F-statistics				

Figures in parenthesis are t- values

Source: Computed from field survey data

* Cash contribution score was removed because of its dependence on income and by extension the per capita expenditure.

4.3.2 Social Capital and Household Welfare: Any Reverse Causality?

According to Grootaert (1999), social capital like human capital variable can be, at least partly, consumption good. However, the model in chapter three of this paper is based on the assumption that social capital is truly an input in the household's production function. In order to validate this assumption, this study tested for existence of two-way causality with the aid of instrumental variable. The instrument chosen is a multiplicative index of whether the members of the three most important LLIs that a household belongs to are of the same religion, culture or trust. This is arrived at upon testing each of the indices separately as instruments. And as indicated in chapter three, the instrument is expected to determine social capital but not household welfare (nor is it to be determined by household welfare).

Using the aggregate social capital model as indicated in Table 4.14, the original social capital index was replaced by the instrumental variable. The choice of the instrument used for social capital is guided by available information and submissions by Narayan and Pricett (1997), Grootaert (2001) and Grootaert et al. (2002). In this context, trust is used as instrumental variable. However, as noted by Grootaert et al. (2002) 'generalised trust' not tied to specific known individuals, such as friends is built over time and is a function of village cohesion and norms. Such trust is said to be independent of the income level of a specific household. But, one recognizes the limitation to the use of trust as instrument. Putnam (2000) notes that richer individuals in the US may have a higher propensity to trust. Hence, the result of this exercise must be treated with some cautions bearing in mind the limitation above. Notwithstanding, the analysis provides the basis for determining the direction of causality between social capital and welfare. Table 4.14 presents the result.

Table 4.14: Social capital: Instrumental Variable estimation

	Without Instrumental variable (OLS)	With instrumental Variables (2SLS)
Intercept	7.3645 (23.18)	7.3954

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Sex of Household Head	0.6181 (5.57)	(23.32)
Age of Household Head	0.2832 (50.35)	0.6392 (5.75)
Squared age of Household head	-0.0027(-37.56)	0.2854
Household size	-0.0548 (-7.40)	(52.11)
Occupation	0.2573 (3.40)	-0.0027(-
Years of Education of Household Head	0.0814 (1.81)	38.48)
Social capital index	0.0057 (2.36)	-0.0554 (-7.46)
		0.0062 (3.16)
Number of observation	582	0.0806 (2.73)
R^2	0.1914	0.0063 (2.58)
F-statistics	19.40	
		582
		0.1923
		19.52

Figures in parenthesis are t- values
Source: Computed from field survey data

The result is indicated in Table 4.14. From the table, it is evident that the use of the instrumental variable leads to slightly higher R^2 (0.1923) compared with (0.1914) obtained with the use of the actual social capital index. In addition, the instrumental variable method leads to higher coefficient (0.0063) for the social capital index than in the OLS method where it was 0.0057. Thus, implying absence of significant reverse causality since the coefficient of the social capital index in the instrumental variable method is higher than the OLS coefficient. Hence, one can infer that there is exogeneity of social capital index. This result is in agreement with Narayan and Prichett (1997) and Grootaert (1999). A one percent increase in the level of instrumented social capital leads to 0.63 percent increase in household expenditure. The corresponding increase in household expenditure using OLS estimate for the social capital index is 0.06 percent.

4.4   Effect of Social Capital on Poverty

The discourse so far centres on the way in which social capital influences welfare. However, such an analysis can mask the differential effect of social capital on the poor and the non-poor. This arises since the OLS result of the effect of social capital on welfare imposes constant parameter over the entire distribution. Thus, it may not be possible to provide justification for the worthwhileness of the behaviour of the poor in investing time and resources on social capital. Therefore an estimation of Tobit model focusing on the probability of being

poor is carried out. The results as presented in table 4.15 indicate that six of the postulated variables determine the level of poverty. These variables cut across demographic, human capital and social variable variables. Four of the six significant variables are related to social capital. The marginal analysis reveals that a unit increase in household size will further aggravate the poverty situation of the households by 3.1 percent. On the other hand, the more educated a household is the lower the poverty situation. The magnitude of the reduction in poverty level as a result of a unit change in educational attainment is at about 1.6 percent. The four social capital variables with significant effect on poverty are: heterogeneity index, meeting attendance, cash contribution score and labour contribution score. A unit increase in meeting attendance will lead to 1.0 percent reduction in poverty. The other three social capital variables will elicit between 0.3 and 0.8 percent reduction in poverty. It is instructive that both heterogeneity index and meeting attendance index come up as important variables for poverty reduction just as they are found to be welfare enhancing. Hence, diversity of members and membership attendance at meetings are key social capital factors for reducing poverty and enhancing welfare.

Table 4.15: Effect of Social capital on Poverty (Marginal analysis from Tobit Regression

	Marginal Effects	Marginal Effects**
Sex of Household Head*	-0.0545 (-0.88)	-0.0469 (-0.72)
Age of Household Head	-0.0064 (-0.78)	-0.0071 (-0.86)
Squared age of Household head	0.0001 (1.00)	0.0001 (0.99)
Household size	0.0313 (8.62)	0.0324 (8.44)
Occupation*	-0.0508 (-1.36)	-0.0674 (-1.61)
Years of Education of Household	-0.0161(2.27)	-0.0156 (-2.45)
Head	-0.096 (-1.75)	-0.0103 (-1.75)
Household memberships in	0.0010 (1.54)	-0.0002 (-0.29)
association	-0.0055 (1.86)	-0.0085 (-2.77)
Index of participation	0.0001 (1.60)	0.0001 (2.51)
Heterogeneity index	-0.0100 (-4.07)	-0.0123 (-4.70)
Squared Heterogeneity index	-0.0082 (-6.66)	-
Meeting attendance index	-0.0030 (-1.86)	-0.0043 (-2.45)
Cash contribution score	0.3256	0.3466
Labour contribution score	582	582
Sigma	0.2866	0.2118
Number of observation	194.59	143.84
Pseudo R2	-242.21	-267.59
LR chi-squared		
Log likelihood		

Figures in parenthesis are z- values
* Marginal effect is for discreet change of dummy variable from 0 to 1
Source: Computed from field survey data

** Cash contribution score was removed because of its dependence on income and by extension the per capita expenditure.

In the second column of table 4.15, the cash contribution score is removed. This does not change the directions of the relationship of the social capital variables. However, there is an improvement in the magnitude of these variables. In this respect, a one unit increase in the level of heterogeneity index will lead to 0.85 percent reduction in poverty level. Similarly, a one unit increase in meeting attendance and labour contribution score will lead to1.2 percent and 0.4 percent reduction respectively in the level of poverty.

CHAPTER FIVE

Summary and Conclusion

Against the backdrop of increasing focus on the use of Local Level Institutions (LLIs) in addressing poverty and the growing literature on impact of social capital on welfare and poverty, this study provides empirical evidence for Nigeria. The study is focused on households' memberships in LLIs using primary data from households in six participating pilot states under the Wold Bank's assisted Community-based Poverty Reduction Project (CPRP). Six measures of social capital were identified. These are density of membership, internal heterogeneity of associations, meeting attendance, payment of membership due, labour contribution and decision making. The study reveals that an average household size of 9 participates in at least 3 LLIs. Further, internal heterogeneity reveals some level of diversity in each group while meeting attendance index averaged about 60 percent for all participating members of households. An average of N4, 254.90 membership due and 43 days of labour are contributed by households to LLIs. The basic data from the study indicate that households with higher social capital are less poor using different dimensions of poverty. Using a reduced form model of household welfare which controls for relevant household characteristics, the contribution of social capital to household welfare was estimated. The result shows that increasing social capital by one unit will lead to 0.57 percent increase in household expenditure per capita. A one unit increase in the level of educational attainment will lead to 8.1 percent change in the level of welfare.

The disaggregation of social capital into six dimensions reveals that the level of diversity among members of LLIs, meeting attendance and labour contribution score have positive influence on the per capita expenditure of households. In this instance, a 1 unit increase in meeting attendance will lead to 2.6 percent increase in per capita expenditure. Similar increase in heterogeneity index and labour contribution score will lead to 3.1 percent and 0.85 percent increase in per capita expenditure respectively.

The test of reverse causality between social capital and household expenditure with the aid of instrumental variable estimation technique indicates that the direct effect of social capital on welfare outweighs the reverse effect in the explanation of the correlation between the two variables. Another finding of the study is that social capital reduces the probability of being poor. The social capital dimensions of meeting attendance, heterogeneity index and labour contribution in LLIs significantly reduce the probability of being poor. A unit rise in meeting attendance,

heterogeneity index and labour contribution will lead to reduction in the probability of being poor by 1.2 percent, 0.8 percent and 0.4 percent respectively. A unit increase in human capital (i.e. level of education will elicit 1.6 percent reduction in the probability of being poor.

The findings of this study support recent emphasis on investing in social capital. In addition it has been shown that investments in LLIs need to be part of poverty alleviation programmes. This is because social capital (and its dimensions) has positive influence on per capita expenditure while at the same time reducing the probability of being poor. In addition, it is evident that social capital can compliment human capital endowment in enhancing welfare and reducing poverty. This study has also contributed to the growing literature on the effect of social capital on poverty with particular reference to Nigeria. In spite of the findings above, there are areas of further research to elucidate more on the importance of social capital in household welfare. One of these areas is the effect of social capital on long-term benefits such as access to credit and accumulation of assets. In addition, it will be necessary to determine the effects of social capital from each type of associations on welfare and poverty. The analysis of data on geopolitical (zonal) basis as well as by rural-urban dichotomy will bring out more salient issues on the differences in LLIs in the different regions of the country and by rural-urban dichotomy.

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