Pakistan Journal of Social Sciences 4 (3): 331-339 2007

Effects of Social Capital on Rural Poverty in Nigeria

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Abstract: 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 focuses on households' memberships in LLIs using primary data from 587 households in 6 participating pilot states under the World 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% 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. The study shows that while a unit increase in household size tend to aggravate poverty by 3.1%, one extra year of educational attainment reduces the extent of poverty by 1.6%. The level of heterogeneity of the associations, meeting attendance index, cash contribution score and the labour contribution score are the key social capital dimensions with dampening effect on poverty, in the order listed, a unit change in each of these dimensions of social capital leads to 0.85, 1.2, 0.82 and 0.3%, respectively.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.

Key words: Social capital, local level institutions, poverty, Nigeria

INTRODUCTION

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. (Okunmadewa, 1998, 2001) The absence of such institutions and the Sweakness 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

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(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.

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 (2001) 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.

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) 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 studies are also cited by Uphoff (1993), Narayan (1997), Grootaert (1997) and Krishna *et al*. (1997).

The channels through which social capital affect 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;
- 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 (1997) 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. 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).

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 (1995). 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 Burkina Faso. Characteristics of group membership were used by Maluccio *et al.* (2000) in South Africa. Indonesia, Kenyan and countries of the Adean region also used the Putnam's approach. Bebbington and Carrol (2000) 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: membership in local associations and networks; indicators of trust and adherence to norms and 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 works on 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.

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 tracking 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 (Grootaert and Bastelaer, 2002).

Grootaert (2001, 1999) in his research in Indonesia, Bolivia and Burkina Faso 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 for 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 Burkina Faso the average household with 1.8 memberships has a 7.36% 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% 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.

MATERIALS AND METHODS

Sources of data: The data for this study were obtained from the 6 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 o f 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:

- Consumption expenditure - that is the amount spent on food, clothing and foot wear, housing, energy, education, health care, transport and communication by the household.
- Demographic characteristics of household members.
- Participation in local level institutions.
- Perceptions of community trust and collaborations.
- Household economy and coping strategies.

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

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 i^{th} subgroup (P_{aj},) is given below:

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

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

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

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

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

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
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.

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 (2000):

$$\begin{aligned} q_i &= P_1 = f(sc, hc, oc, hh) + e_i \quad \text{if } P_1 > P_1^* \\ &= 0 = f(sc, he, oc, hh, re) + e_i \quad \text{if } P_1 \leq P_1^* \\ i &= 1,2,3 \ldots 582 \end{aligned} \tag{1}$$

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: The social capital (sc) 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 6 social capital indices is explained. This follows the approach used by Grootaert *et al.* (2002). The measurement of each is as described .

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.

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).

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.

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.

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.

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 (Grootaert, 1999).

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

The household characteristics (hh) used are:

- Marital status of household head (D = 1 if married, 0 if otherwise)
- Household size (actual number of people in the household)
- Gender of household head (D=1 if male, 0 if otherwise)
- Age of household head in years
- Age of household head square to capture the life cycle of household welfare.
- Primary occupation of household head (D=1 if farming, 0 if otherwise)

RESULTS AND DISCUSSION

This research focuses on the empirical results for the study. The study 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.

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 1 shows the distribution of PCE by deciles.

The Table 1 shows that households in the first decile have a mean PCE of N483.31 monthly, representing only

Table 1: Per Capita Expenditure (PCE) distribution in 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

2.51% 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% 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.

As can be seen in the Table 2 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%) 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% of heterogeneity index have low poverty levels, those with 10-29% 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.

Effect of social capital on poverty: This study discusses the effect of social capital on poverty. An estimation of Tobit model focusing on the probability of being poor is carried out. The results as presented in Table 3 indicate that 6 of the postulated variables determine the level of poverty. These variables cut across demographic, human capital and social capital variables. However, 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%. 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%. The 4 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% reduction in poverty. The other three social capital variables will elicit between 0.3 and 0.8% 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 2: Poverty and social capital variables

Variables	N	P_o	P_1	P_2	Contributions to P_o	Contributions to P_1	Contributions to P_2
Cash contribution (N)							
Below 1000	135	0.6148	0.2260	0.1162	0.34	0.4	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	0.234	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	0.6
29-Oct	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	0.359	0.0913	0.0349	0.06	0.05	0.04
29-Oct	35	0.4571	0.1265	0.0502	0.07	0.06	0.05
30-49	67	0.4627	0.1196	0.0429	0.13	0.1	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
29-Oct	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	0.1
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	0.040	0.04	0.04
29-Oct	77	0.6364	0.2551	0.1302	0.2	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
4-Mar	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)

Table 3: 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 head	-0.0161(2.27)	-0.0156 (-2.45)
Household memberships in association	-0.096 (-1.75)	-0.0103 (-1.75)
Index of participation	0.0010 (1.54)	-0.0002 (-0.29)
Heterogeneity index	-0.0055 (1.86)	-0.0085 (-2.77)
Squared heterogeneity index	0.0001 (1.60)	0.0001 (2.51)
Meeting attendance index	-0.0100 (-4.07)	-0.0123 (-4.70)
Cash contribution score	-0.0082 (-6.66)	-
Labour contribution score	-0.0030 (-1.86)	-0.0043 (-2.45)
Sigma	0.3256	0.3466
Number of observation	582	582
Pseudo R^2	0.2866	0.2118
LR chi-squared	194.59	143.84
Log likelihood	-242.21	-267.59

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 3, 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% reduction in poverty level. Similarly, a one unit increase in meeting attendance and labour contribution score will lead to1.2 and 0.4% reduction, respectively in the level of poverty.

CONCLUSION

This study has shown that social capital and its various dimensions have reducing effect on poverty. Specifically, membership participation in associations, level of heterogeneity of organizations to which household members belong, meeting attendance index and both labour and cash contribution indices have significant reducing effect on poverty. In addition, it is evident that social capital can compliment human capital endowment in 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 line with the findings of this study, participation in social capital should be encouraged as a way of further alleviating the poverty situation of rural households. Emphasis should however be focused on active membership participation and some level of heterogeneity.

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