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**Better Relationships, Enhanced Development:
The Role of Social Capital and Community Based Organizations in
Development for Rural Bangladesh**

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Abstract

The aim of this Masters Thesis was to investigate whether social capital is translated into performance by the Community Based Organizations (CBOs) to reach collective goals for the development of the community in rural Bangladesh. Both qualitative and quantitative methods were used in this study. This research was carried out in eight villages of Bangladesh and two hundred households were surveyed under the scope of the study. A positive relation was found among social capital, CBO performance and rural development. Strong CBOs emerged in the villages endowed with high social capital. Collective actions take place more frequently in the villages with high social capital and strong CBOs . A significant relation was found between household well being and stock of social capital.

Key Words: Social Capital, CBOs, Rural Development, Households well-being.

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Foreword

First of all, I am grateful to my tutor Professor Alia Ahmad who ignited my research interest in this area and arranged my field trips to Bangladesh negotiating with the WorldFish Center, South Asia Office. I am also Grateful to WorldFish Center(WFC), South Asia Office for providing me grants for field work. I am thankful to Mr. Mozaffar Ahmed and Dr. Nurul Islam of WFC for facilitating my field work and research. I must thank my friend Mr. Mansur Ahmed of South Asian Network for Economic Modeling (SANEM) for his kind assistance in different parts of the study. Finally, I want to show my gratitude to all the teachers and staffs of the Center for East and South East Asian Studies and my classmates for their kind support during the period of my Master's studies at Lund University.

1. Introduction

1.1 Background

The governments and the Non Government Organizations (NGOs) of the developing countries have been working for the community development for a long period. Day by day the role of the community itself has become important for development. As a result the importance of social capital is well recognized by now and increasing number scholars acknowledge that social capital has at least some similarities with physical and human capital in its dimension and its ability to generate a stream of future benefits (Chou 2006:890). Beside the contribution of the Governments and the NGOs, the communities are also considered to take the responsibility of development by accumulating social capital among them.

Social capital influences development of a community by facilitating transactions among individuals, households and groups in developing countries. The influence can take three forms (Grootaert and Bastelaer 2002:8). First, participation by individuals in social networks increases the availability of information and lowers its cost. Second, participation in local networks and attitudes of mutual trust make it easier for any group to reach collective decisions and implement collective action. And third, networks and attitudes reduce opportunistic behavior by community members.

In the recent years it was observed in Bangladesh that the donor agencies and the NGOs are emphasizing to build social capital in the communities for development. Some examples of such initiatives can be discussed here. First, The WorldFish Center, under their project named *Community Based Fisheries Management-2* (CBFM-2) ended in 2007, targeted to build social capital among the fishing communities in rural Bangladesh. In CBFM-2 project in Bangladesh, the partner NGOs of the WorldFish Center took a lead role with the help of the Department of Fisheries (DoF) of the Government of Bangladesh (GOB) in facilitating connections between poor fishers and other, more powerful stakeholders. The NGOs were involved throughout the project in the process of identifying genuine fishers, organizing them into groups (by establishing CBOs), providing awareness raising and capacity building training and motivating them to

manage the fisheries resources. They also received administrative support from the DoF (WorldFish Center 2007:2).

The second example is the Gram Shahayak Committees (GSC) initiatives by the Bangladesh Rural Advancement Committee (BRAC) under their Targeting Ultra Poor (TUP) program launched in 2002. BRAC intends the Gram Shahayak Committee to provide TUP participants with “an enabling environment,” bridging the gap between the extreme socioeconomic classes within a village. Such mediation may create new social links between the ultra poor and the village elites, providing a form of social capital that did not previously exist and promoting the further development of TUP members (Huda et al 2005:2-3). Unlike the CBOs assisted by the World Fish, these CBOs are somewhat informal.

Third, Steps Towards Development (STD), a national NGO of Bangladesh, works through networking with like-minded organisations, civil society groups and social activists at local and national level. To achieve its vision of establishing a democratic and just society, which is predominated by gender equality, human rights, and good governance, STD is developing collective platforms, and training Gender Change Activists as social actors all over the country. Currently, Steps is working with 13 networks (local collective platforms) comprising of 124 local organizations (www.gadalliance.net/gca_ltg_csdi.htm).

Fourth, Shamunnay, a local Bangladeshi Non-Government Organization, is working for building awareness among rural people to achieve Millennium Development Goals (MDGs). This organization helps the rural poor people to create informal groups like Mother’s club, Health Club, Education Club, Old Age Club etc. to build awareness among the community about their rights to development and to act collectively for their betterment (Shamunnay 2007:5).

This study is motivated by the initiatives like above stated examples. It was felt that a study should be done to investigate the effectiveness of social capital and CBOs’ performance in rural development.

1.2 Objective and Research Question

The main objective of this thesis is to investigate whether social capital is translated into performance by the mediating agencies (CBOs) to reach collective goals for the development of the community in rural Bangladesh.

The research questions can be divided in following way:

- Are strong Community Based Organizations (CBOs) emerging when social capital is high in the community?
- Can community with high social capital and strong CBOs bring development?
- Are collective actions taking place because of the interaction of the community and the CBOs?

The answers of the first two questions are tried to draw with quantitative analysis in Section 4 and the last question is answered in chapter 5 with the help of qualitative analysis.

1.3 Methodology

Both quantitative and qualitative research methods were used in this study. This is an empirical study based on the field work done in rural Bangladesh. The methodology of this study is influenced by the World Bank's multidisciplinary tool for practitioners for understanding and measuring social capital (World Bank 2002). Sampling design, methods of data collection, data collection instruments, field operation and administering of questionnaires, data processing and analysis, limitations of the study are briefly discussed in this section.

1.3.1 Sampling Design

This study covers two hundred households from 8 villages (Twenty five households from each village). The villages under the study was selected purposively so that study can be conducted in the villages where NGOs are working for rural development by creating social capital among people through establishing Community Based Organizations (CBOs). The locations of the study area are provided in the Table 1.3.1. From the household survey most densely participated CBOs (at best three from each village) were identified and the performances of those CBOs were evaluated and interview sessions

were conducted with the CBO leaders and some of the members. Focused group discussions were conducted with the participation of the households of the villages.

Table 1.3.1: Study Area

Village	Thana	District
Dharmadas	Peerganj	Rangpur
Auliapur	Patuakhali Sadar	Patuakhali
Amla	Mirpur	Kustia
Jalalpur	Mitha Pukur	Rangpur
Mithipur	Peer Ganj	Rangpur
Bhagbatipur	Mitha Pukur	Rangpur
Folia	Ullapara	Sirajganj
Gopinathpur	Jmalpur Sadar	Jamalpur

Note: Thana is an administrative unit of Bangladesh. A district is composed with some Thanas.

1.3.2 Methods of Data Collection

Focused group discussions with villagers, open ended Interviews with community leaders, Interviews with NGO staffs were the main qualitative methods used in this study. The quantitative methods used in this study includes household survey with structured and coded questionnaire, construction of Social Capital Index, CBO performance Index, Health Status Index and preparation of descriptive statistics.

1.3.3 Data collection Instruments

The data collection instruments used in this study is mainly prescribed by the World Bank (2002) Social Capita Initiative. However the instruments were made localized according to the socio-economic and cultural context of rural Bangladesh. The instruments used in this study are as follows:

- Community Profile interview guide
- Community development Characteristics questionnaire
- Household Questionnaire
- CBO profile Interview for the CBO leaders
- CBO profile form

1.3.5 Field Operation and Administering of Questionnaires

Data collection from the field was carried out over a period of 8 weeks (Approximately one week for each village) beginning from 15 September 2007, to 13 November 2007. The researcher himself conducted the survey, focused group discussions and interviews. Contacts of local NGOs and CBOs were helpful for the researchers to carry out the study.

1.3.6 Data Processing and Analysis

The data processing involved two important steps. The first step was to categorize the individual information and the second step was to allocate individual answer to them. The set of coding frames covering all the information were extracted from the questionnaires. Another step of data processing were to enter collected information into the computer using software designed for the purpose, and to obtain required output by running the computer programme. Multivariate analysis was done to analyze the data.

1.3.7 Limitations of the Study

The major limitation of this study is certainly its very tight time frame. It was an extraordinary challenge to finish data collection, data entry, cleaning, processing and finally writing of the report. The explanation behind such a large number of sample house holds for this master's thesis was mainly to justify the quantitative analysis with a significant sample size. Some qualitative research on social capital in Bangladesh was already done in the form of master's thesis (Parvin,2006; Mamun, 2005) from the Center for East and South East Asian Studies, Lund University, Sweden. So the author of this thesis attempted to do some quantitative analysis on this issue. As a result, the sample size was taken larger for better reliability of the analysis.

The Social Capital Index developed in this study was partially based on the perception survey among the sample population. So this study has all the limitations of the perception survey based study. However there is no other way than perception survey to construct social capital index.

1.4 Ethical Considerations

AS a student of the Master Program in Asian Studies at the Centre for East and South-East Asian Studies the researcher carried out his masters thesis project in accordance with the ethical guidelines as described by The Swedish Research Council (ISBN: 91-7307-008-4).

During the field work the researcher introduced himself as a Masters student of Lund University and expressed the intention of doing this research. Respondents were also informed about their roles in the study, conditions for participation, the ways in which data will be gathered, participants' right to terminate the participation. The respondents were confirmed about their anonymity and confidentiality of the data (informing them the data will only be used for the masters thesis) and notified about the publication of the Masters thesis in the web site of Lund University.

1.5 Disposition

After this introduction, Section 2 contains the literature review, Section 3 describes the conceptual frame work and the indicators used in this study, Section 4 presents the quantitative analysis of primary data, Section 5 reports some qualitative analysis and finally Section 6 concludes and summarizes.

2. Review of Literature

Coleman (1990:304) pointed social organizations as the constructor of social capital and argues that social capital facilitates the achievement of goals that could not be achieved in its absence or could be achieved only at a higher cost.

Putnam (Putnam et al 1993:167) defined social capital from the perspective of social organization, such as, norms, networks and social trust that facilitate the co operation and co ordination of the mutual benefit. In his study of assessing the performance of regional governments in Italy he found that social capital is strongly and consistently associated with regional governments' performance in multiple social domains. He also pointed out that social capital is higher among the horizontal groups than the hierarchical groups in their organization.

Fukuyama (1997: 378) defined social capital as the existence of a certain set of informal rules or norms (which must include virtues like truth telling, meeting of obligations and reciprocity) shared among members of a group that permits co-operation among them. However norms that are wrong are unable to produce social capital.

Lin (2001:24-25) conceptualized social capital as the resource in social networks accessed and used by actors for actions. He divided the concept into two important points, first, social capital represents resources embedded in social relations rather than individuals and second, access and use of such resources reside with actors.

Woolcock (2001:13) defined social capital as the norms and networks that facilitate collective action. He eliminated 'trust' as an entity from the definition of social capital.

Knack (2002:42) classified social capital into governmental social capital and civil social capital. With the term government social capital he refers to institutions that influence people's ability to co-operate for mutual benefit. On the other hand civil society social capital includes common values, norms, networks, and associational memberships that affect the ability of the individuals to achieve common goals.

Narayan and Pritchett (1997: 34-35) accentuated on quantity and quality of associational life in their study of household income in Tanzania. They found social capital to be an important determinant of household income. They concluded saying that social capital is an important dimension of income and poverty analysis..

Krishna and Uphoff (1999:33) gave importance on cognitive aspects of social relations that influence the individuals toward mutually beneficial collective action. They also found that villages with high levels of development performance usually also have high scores on the Social Capital Index. They surveyed 2400 households in India and found that social capital is positively related with development performance and the informal groups are more prominent than the formal ones.

Grootaert (1998:62) in his study 'Social Capital, Household Welfare, and Poverty in Indonesia' emphasized on institutions, relationships, attitudes and values that govern interaction among people and contribute to economic and social development. He found that household social capital influences household welfare and they also have more assets, more savings, and better access to credit. Moreover, social capital reduces the probability of being poor and the returns to household investment in social capital are higher for the poor than for the population in general.

In his study on social capital and state level poverty in India Morris (1998:13) found that states of India that are well endowed with social capital have been more successful in reducing poverty. He included the state-created and government-managed groups in his measure of social capital.

Ahmad (2004) showed the multiple dimensions of poverty that can be affected by social capital. These are- Reduction of crime and violence through networks and mutual trust, - community networks and family values have significant effects on educational attainment, Risk management to reduce vulnerability of the poor, improving service provision in education and health, Promoting economics and trade and Management of common-pool resources.

Knack and Keefer (1997:1252), in their cross country study, to investigate the effect of social capital on economic growth found that trust positively related to growth but density of association is not related to either growth or trust. They also claim that trust and norms of civic cooperation are stronger in countries with formal institutions that effectively protect property and contract rights, and in countries that are less polarized along lines of class or ethnicity.

Lutz and Lutz (2004:12) from their empirical work on wellbeing in Africa estimated a model using an interactive term to capture the interaction between institutions and social

capital and obtained a statistically significant and positive coefficient in the interactive term implying that improved institutions enable social capital to be more effective.

Lutz (2005:17) found that that social capital has a robust positive influence on income.

On the other hand, institutions do not have an independent positive effect on income.

However, the interaction between social capital and institutional quality, and the interaction of social capital with human capital have a positive impact on economic development.

3. Conceptual Framework and Indicators

3.1 Conceptual Framework

According to Bourdieu social capital is a production of the group members and it is a mere disguise of the economic capital. Bourdieu sees social capital as a form of capital possessed by members of a social network or a group (Lin 2001:22-23).

Physical, financial and human capitals are well recognized as the important factors for economic growth and poverty reduction. While social capital is comparatively new topic in development research however it received much attention in the last few years. Social capital affects the accumulation of other types of capital that are essential for poverty reduction (Ahmad 2004).

Social capital represents propensity for mutually beneficial collective action and it derives from the quality of relationship within a particular group or community. Community with high social capital is more likely to achieve better outcomes in multiple domains. However Krishna (2002:9) found in his empirical study that social capital by itself does not explain the major part of the variation in any of these outcomes. He observed that some villages with high social capital do not always perform well with respect to economic development, community peace, or democratic participation. His analysis shows that appropriate mediating agency is needed to activate the stock of social capital and to make it more productive.

To activate the social capital both the external and internal agencies are required. Non-governmental organizations (NGOs) are usually initiated by external agents in contrast to community-based organizations (CBOs) that are purely indigenous. NGOs can play an important role to activate social capital by their assistance to form a Community Based organization (CBO) and to strengthen the CBOs (Ahmad and Haque 2007).

From the above discussion the concept can be summarized as follows: NGOs play an important role to activate the stock of social capital of a community by supporting the CBOs. And a community with high stock of social capital and strong CBO can go for collective actions beneficial for the community to bring in development for them. The following diagram gives a brief overview of this concept.

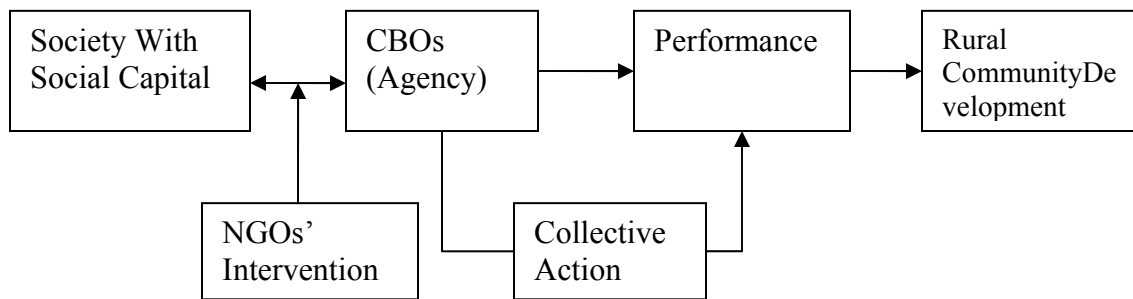


Figure 3.1: Conceptual Frame Work

A previous study of the author (Ahmad and Haque 2007) already showed the relation between NGO's intervention and CBO's performance. This study mainly focuses on the interrelation between communities' social capital and the performance of the CBOs and their contributions in rural development in Bangladesh.

3.2 Indicators

Indicators used in this study are described in this section. For the sake of the study some indices were constructed. A brief clarification of the indicators and construction process of the indices are provided here.

3.2.1 Social Capital Index

The most challenging task of this study was the construction of Social Capital Index. Principal Component Analysis (PCA) is used in building this index. The index constructed in this study is influenced by World Bank's multidisciplinary tools to understand and measure social capital (World Bank 200:41-84). This index was calculated to measure social capital at household level.

Three structural and three cognitive indicators of social capital were chosen to build the index. The indicators are as follows:

Table 3.2.1 A: Indicators of Social Capital

Indicators	Nature of Indicators
Density and effectiveness of membership	Structural
Diversity of Membership	Structural
Decision Making	Structural
Solidarity	Cognitive
Trust	Cognitive
Conflict and conflict Resolution	Cognitive

PCA was done to determine whether any underlying explanations/ relations exist and if exists, then to provide weights to the indicators. The PCA is a relevant choice for this purpose (Hjollund and Svendsen 2000:16). The indicators in the table 3.2.1 load highly onto a single common component which accounted for about 63.36 percent (Eigen Value 3.06) of the combined variance (Table 3.2.1 B). Therefore, the six separate variables can validly be combined into a single social capital index which can be used as an explanatory variable in multivariate analysis (World Bank 2002:57).

Table 3.2.1 B: Component Matrix of Social Capital

Indicators	Factor Loadings of Component 1
Density and effectiveness of membership	0.8694
Diversity of Membership	0.7026
Decision Making	0.8531
Solidarity	0.8107
Trust	0.8341
Conflict and conflict Resolution	0.6867

Note: Extraction Method: Principal Component Analysis and One Component extracted

3.2.2 Index of Asset Endowment

Index of asset Endowment for each household was prepared to use it as an independent variable to run a regression. Holdings of land and cattle were the main indicators of this index. Score was provided according to the amount of land holding and number of cattle holding. Principal component analysis was used to provide the weights for the indicators in construction of the Index of Asset Endowment.

3.2.3 Human Capital

Human capital endowment of the households is an important independent variable of the regression run in this study. Years of education of the head of the household were taken as a proxy of human capital endowment of the households.

3.2.4 Health Status Indicators

Health status is an important indicator of household well being. This study tries to investigate the relationship between household well being and social capital. Health Status Index of each household was calculated to use it as a dependant variable in the regression. Household's vaccination status, access to pure drinking water, access to sanitation, likelihood of seasonal diseases of the household members, major diseases suffered by the household members in last five years, access to pre and post natal care of the female member of the household were the indicators of measuring Health Status index of the household.

3.2.5 Rural Development Indicators

The objective of this study was to investigate whether social capital and CBO performance translate into rural development. As a result, it was necessary for the study to identify the indicators of rural development. Tuzon (2006:133-146) proposed some indicators to construct Sustainable Rural Development Index for the Asian countries. In the light of that index this study sets some indicators of rural development relevant for Bangladesh. However no index was calculated with those indicators. Only descriptive analyses are provided in Section 4 of this paper. The indicators of rural development used here are as follows:

- Infrastructures include road communication, availability of electricity etc.
- Health care services to the villages
- Environmental status includes waste management, sanitation system etc.
- Overall Education status
- Gender profile of the households
- Expenditure pattern (which also reflects income level to a great extent) of households
- Access to credit
- Community harmony
- Democratic participation of the households

3.2.6 CBO Performance Index

It was mentioned in the Section 1.2 that this study aims to see whether strong CBOs are emerged in the communities where social capital is also high and whether community with high social capital and strong CBOs are able to bring in development in rural Bangladesh. In order find the answers of this questions an index of CBO performance is obviously needed. This study uses the CBO performance Index constructed by Ahmad and Haque (2007) in their study on community based fisheries management in Bangladesh. This index consists of seven broad indicators. The indicators are as follows:

- Financial Management
- Legal and formal status
- Management and Daily Administration of Activities
- Staffing and human resource development
- Democratic practice and participation
- Communication Skill
- Capacity of policy formulation

Principal Component Analysis (PCA) was done to construct the CBO performance Index. PCA was used to extract the maximum amount of variance to calculate factor loading.

Factor loadings are the correlation of each variable and the factor loading indicates the degree of correspondence between the variable and the factor. PCA is very important to provide weights to the indicators in calculating index (WorldFish 2007: 3).

All the indicators show strong positive relation with the first component and the first component explained 63.73% of the variance within the observations. So, the CBO performance index is constructed on the basis of the first component.

Table 3.2.6: Component Matrix of CBO Performance

Indicators	Factor Loadings of Components	
	Component 1	Component 2
Financial Management	0.7179	0.0568
Legal And Formal Status	0.8764	0.3681
Management and Daily Administration	0.7430	0.6007
Staffing and Human Resource	0.7691	0.5639
Democratic Practice And Participation	0.8276	0.4340
Communication Skill	0.7914	0.3739
Capacity Of Policy Formulation	0.8504	0.2420
Eigen Values	4.46132	1.20429
% of Variance of Components	63.73	17.20

Note: Extraction Method: Principal Component Analysis and Two Components extracted

4. Analysis of Data

This section deals with the quantitative analysis of the study. Both tabular and regression analyses are incorporated in this section. It attempts to show the relation among social capital, CBO performance and the indicators of rural development such as level of expenditure, health status, gender profile, security issues, sanitation and environmental features, democratic participation, access to credit, education, infrastructure, exclusion etc.

4.1 Social Capital and CBO Performance

One of the main objectives of this study is to see the interrelation between community's social capital and the performance of the CBO. It was mentioned earlier that a Social Capital Index and a CBO performance Index was prepared in this study. Table 4.1.1 shows the village social capital index and the average performance index of the CBOs of the same villages. It is obvious from the information that there is a strong relationship between these two indices. Villages endowed with high social capital are also having high performing CBOs. And same kind of relation is true for villages with low social capital. There may be a two-way relationship between Social Capital and CBO performance. That is, strong CBOs are usually emerged in communities with high stock of social capital and on the other way, as Krishna (2002) argues appropriate mediating agency is needed to activate the stock of social capital and to make it more productive.

Table 4.1.1: Social Capital and CBO Performance

Locality	Social Capital Index	CBO Performance Index
Dharmadas	H	H
Auliapur	H	H
Amla	H	M
Jalalpur	M	M
Mithipur	M	L
Bhagbatipur	M	M
Folia	L	L
Gopinathpur	L	L

H=High

M=Medium

L=Low

4.2 Social Capital and Infrastructure

A trial was made to draw any relationship between social capital and infrastructure. However it does not show any significant variation of infrastructure according to the stock of social capital (Table 4.2.1). Quality of road communication and availability of electricity in Bangladesh mainly depends on the distance of the village from the nearest important town where electricity is available. So, social capital does not possess any significant control over availability of these facilities. However social capital has importance in maintaining the infrastructures. For example, from the survey it was found that schools (both primary and secondary) are more efficiently managed in the villages with higher social capital because school management committee performs better in those villages in maintaining the academic quality and service delivery of the schools. Though it was found that road communication does not vary notably with the stock of social capital however it was observed that in the villages with higher stock of social capital community based social forestry beside the road is very popular. So it can be commented that social capital has its more implication on management of infrastructure rather than availability of the same.

Table 4.2.1: Social Capital and Infrastructure

Locality	Social Capital Index	Distance from Nearest Town	Road Communication	Number of Primary Schools	Number of Secondary Schools	Electricity
Dharmadas	H	8	paved	2	1	No
Auliapur	H	2	paved	1	1	Yes
Amla	H	5	Brick	1	0	No
Jalalpur	M	6	paved	1	0	No
Mithipur	M	5	Brick	2	0	Yes
Bhagbatipur	M	7	Brick	1	0	No
Folia	L	6	paved	1	1	No
Gopinathpur	L	1	paved	1	0	Yes

H=High

M=Medium

L=Low

4.3 Social Capital and Health Care Service

Health care service is a very important social service for human being. It is one of the main indicators of community development. In this sub-section an attempt was taken to focus on the relation between social capital and health services. It was mentioned earlier that a Health Status Index was prepared for the purpose of this study. In the table 4.3.1 Social Capital Index is compared with this Health Status Index. It is evident from the table that villages endowed with high social capital are also endowed with higher health status. Later in this section, an attempt was made to investigate this phenomenon with the help of regression analysis. Table 4.3.1 also describes two major indicators of health service, i.e. vaccination rate and access to pre and post natal care for women. It is observed from the table that villages endowed with high social capital covers most of the children and women under vaccination and natal (pre and post) care. This relation between social capital and health indicators can be explained that community with high social capital shares knowledge and information with each other more frequently than those with lower social capital. As a result, awareness level is higher in the communities with high capital which may improve their health status.

Table 4.3.1: Social Capital and Health Care

Locality	Social Capital Index	Health Status Index	Percentage of Children under Vaccination	Access to proper pre and post natal care
Dharmadas	H	H	98	95
Auliapur	H	H	100	92
Amla	H	M	95	90
Jalalpur	M	M	96	80
Mithipur	M	M	80	78
Bhagbatipur	M	L	82	68
Folia	L	L	70	60
Gopinathpur	L	L	72	61

H=High

M=Medium

L=Low

4.4 Social capital and Sanitation along with Environment

Access to sanitation is one of the basic rights of human being. Implementation of hundred percent sanitation facilities not only depends on financial matters but also it highly depends on degree of awareness among people. As it has been mentioned earlier that social capital has its role in building awareness among people as it (social capital) makes people to interact with each other in a wider network. This study also finds positive relation between stock of social capital and access to sanitation. Table 4.4.1 shows that villages with high social capital has better access to sanitary latrines and very low percentage of households is out of the facility of the sanitation system. Where as villages with low stock of social capital have households who do not have access to any kind of latrine which is really pitiful.

Table 4.4.1: Social Capital and Access to Sanitation

Locality	Social Capital Index	Access to Sanitary Latrine (HH Percentage)	Access to Non-Sanitary Latrine(HH Percentage)	No access to Latrine (HH Percentage)
Dharmadas	H	86	14	-
Auliapur	H	82	18	-
Amla	H	92	8	-
Jalalpur	M	48	36	16
Mithipur	M	40	60	-
Bhagbatipur	M	40	44	16
Folia	L	48	40	12
Gopinathpur	L	24	66	10

H=High

M=Medium

L=Low

Rural environmental status is another important indicator of rural development. Among many factors of environmental situation, waste management is very important for rural areas since unlike urban areas no body is really responsible for management of solid waste in rural areas in Bangladesh (Unnayan Shamunnay , 2001:211). Local Government does not play sufficient role in this aspect. However in this study it was found that in some villages community based waste management system exist and it is well-run by the CBOs of the village. Community based waste management system is well established

in four villages under this study- Dharmadas, Auliapur, Amla and Jalalpur. Whereas no such system was found in villages like Foila and Gopinathpur.

Table 4.4.2 : Social Capital, CBO Performance and Waste Management

Locality	Social Capital Index	CBO Performance	Involvement in community based Waste Management(percentage of households)
Dharmadas	H	H	85
Auliapur	H	H	90
Amla	H	M	88
Jalalpur	M	M	80
Mithipur	M	L	52
Bhagbatipur	M	M	25
Folia	L	L	0
Gopinathpur	L	L	0

H=High

M=Medium

L=Low

4.5 Social Capital and Access to Finance

It is widely known that Microfinance has almost become a trademark of Bangladesh's success story of fighting poverty. Grameen Bank, BRAC, ASA, PROSHIKA- these renowned Microfinance Institutions (MFIs) are continuing their operations in Bangladesh. A large rural people, specially rural women are the main clients of these MFIs. Microfinance has contributed significantly to the self-employment generation activities resulting into rise of income and consumption of the participating households (Rahman *et al*, 2002:5). Usually micro finance institutions operate there credit system by creating peer groups which has important implication in building social capital. This study tried to capture the relation between social capital and access to credit. It became evident from the study that there is a strong positive relation between access to credit and social capital. Of course, it is not unlikely since access to credit should be easier for them who can be trusted more. On the other hand, it was found that credit defaulter rate is higher in the villages where the stock of social capital less (Table 4.5.1). This finding implies that social capital is very important to reduce uncertainty in credit market.

Table 4.5.1: Social Capital and Access to Credit

Locality	Social Capital Index	Access to Credit (Percentage of Households)	Defaulter of credit (Percentage of Households)
Dharmadas	H	95	2
Auliapur	H	100	1
Amla	H	88	2
Jalalpur	M	72	3
Mithipur	M	64	4
Bhagbatipur	M	60	10
Folia	L	40	15
Gopinathpur	L	44	14

H=High

M=Medium

L=Low

4.6 Social Capital and Democratic Participation

Proponents of social capital claims that in the communities where the stock of social capital is higher, participation in democracy will also be higher and more people will be involved in actively in a larger range of political activities (Krishna 2002). This study also tries to observe the relation between social capital and political participation. One of the basic political participation is participating by casting vote in election. This study found interestingly that male participation in voting does not vary with the stock of social capital however remarkable variation of participation of female in voting was found in the study. Percentage of female participants is much higher in the villages where the stock of social capital is higher than those endowed with lower stock of social capital (Table 4.6.1).

Table 4.6.1: Social Capital and Participation in Voting

Locality	Social Capital Index	Participation in vote (Male)	Participation in vote (Female)
Dharmadas	H	85	80
Auliapur	H	86	82
Amla	H	78	75
Jalalpur	M	82	72
Mithipur	M	80	65
Bhagbatipur	M	75	68
Folia	L	76	42
Gopinathpur	L	82	48

H=High

M=Medium

L=Low

4.7 Social Capital and Education

This study also focused on the relationship between social capital and education attainment. School enrollment (both primary and secondary level) is higher in the villages which are endowed with higher social capital for both male and female (Table 4.7.1). More interesting finding is that gap between male and female enrollment increases in the opposite direction of the stock of social capital, i.e. Female enrollment rate in the schools are higher in the villages where the stock of social capital is higher. Moreover, It was observed that the gap between primary and secondary enrollment rate is also higher in the villages endowed with lower social capital. It was found that in the villages endowed with more social capital, awareness level about children's education is higher, school management committees are also more efficient and early marriage rate of female is also lower. These factors altogether is reflected in the school enrollment data.

Table 4.7.1 : School Enrolment by male and female children of different ages

Locality	Social Capital Index	6-10years		11-14 years	
		Female	Male	Female	Male
Dharmadas	H	85	74	60	70
Auliapur	H	86	78	65	72
Amla	H	83	76	68	68
Jalalpur	M	68	80	53	62
Mithipur	M	63	72	52	66
Bhagbatipur	M	69	68	42	59
Folia	L	58	75	30	51
Gopinathpur	L	62	73	34	54

H=High

M=Medium

L=Low

4.8 Social Capital and Gender Issues

Gender issues are important indicators of rural development (Tuzon 2006). It was found in this study that social capital has its positive role in gender related issues. For example, number of early marriage of female is less in the villages endowed with high social capital and occurrence of domestic violence is also less in these villages. Whereas both number of early marriage and domestic violence is higher in the villages with lesser social capital (Table 4.8.1). It was found that in the villages with high social capital some

CBOs (for example, Gender Change Activists) play strong role in protecting early marriage and domestic violence which is absent in the villages where social capital is less and CBOs are weak.

Participation in household decision making can be a good indicator of gender status of women. This study finds that female participation rate in decision making in the households of the villages with high social capital is higher than those of with lower social capital (Table 4.8.2). This phenomenon can be explained with earlier information of education, access to credit etc. In the villages with higher social capital it was observed that access to finance is better (Micro credit mainly goes to women in Bangladesh) and education enrollment is also higher which have implications on women empowerment.

Table 4.8.1: Social Capital and Gender Issues

Locality	Social Capital Index	CBO Performance	Early Marriage in last 12 months	Domestic Violence Occurrence (percentage of households)
Dharmadas	H	H	1	8
Auliapur	H	H	0	8
Amla	H	M	2	24
Jalalpur	M	M	1	20
Mithipur	M	L	4	32
Bhagbatipur	M	M	5	36
Folia	L	L	8	56
Gopinathpur	L	L	9	48

H=High

M=Medium

L=Low

Table 4.8.2 Decision Making in Household

Locality	Social Capital Index	Only Male	Male-Female Jointly	Female only
Dharmadas	H	28	60	12
Auliapur	H	32	60	8
Amla	H	44	48	8
Jalalpur	M	40	56	4
Mithipur	M	48	48	4
Bhagbatipur	M	56	40	4
Folia	L	76	20	4
Gopinathpur	L	72	24	4

H=High

M=Medium

L=Low

4.9 Social Capital and Community Harmony

Social capital has its implication on community harmony. Krishna (2002) showed in his study on 60 Rajasthan villages in India that having a high level of social capital enables villagers to mitigate and avoid conflicts. This study also tries to investigate the relation between social capital and community harmony. Earlier it was mentioned that a score of security situation of villages was calculated in the scope of this study. It shows that security situation in the villages endowed with higher social capital is much better than those of having lower social capital (Table 4.9.1). Number of land disputes is also higher in the communities with poorer social capital. In addition to that number of public violence occurred in the last one year is also higher in villages with lower stock of social capital. A perception survey about peacefulness was done in this study which reports that most of the people of the villages with higher social capital believe that their villages are more peaceful than the neighboring villages whereas most of the people of the villages with lower social capital believe exactly opposite of that. It was found that villages with high stock of social capital and having better performing CBOs can solve their problems through the intervention of the CBOs more peacefully.

Table 4.9.1: Social Capital and Community Harmony

Locality	Social Capital Index	CBO Performance	Security Situation	Percentage of people believe their village is more peaceful than other	Land Disputes in last 5 years	Public Violence occurred in last one year
Dharmadas	H	H	H	95	0	0
Auliapur	H	H	H	97	1	0
Amla	H	M	H	94	0	0
Jalalpur	M	M	H	83	1	4
Mithipur	M	L	M	70	3	3
Bhagbatipur	M	M	M	47	6	1
Folia	L	L	L	30	4	6
Gopinathpur	L	L	L	44	7	5

H=High

M=Medium

L=Low

4.10 Social Capital and Exclusion

This study also highlights the relation between social capital and exclusion. It was mentioned earlier that an Inclusiveness score was calculated in this study. Table 4.10.1 shows that degree of inclusiveness is higher in the villages where the stock of social capital is also higher. It was found that as the CBOs are more efficient in those villages where social capital is higher, people usually take the help of the CBO in dealing with the matters where exclusion is possible. Because of strong support from the CBO, people of the villages endowed with high social capital are less likely to be the victim of exclusion.

4.10.1: Social Capital and Inclusiveness

Locality	Social Capital Index	CBO Performance	Inclusiveness
Dharmadas	H	H	H
Auliapur	H	H	H
Amla	H	M	H
Jalalpur	M	M	M
Mithipur	M	L	M
Bhagbatipur	M	M	M
Folia	L	L	M
Gopinathpur	L	L	L

H=High

M=Medium

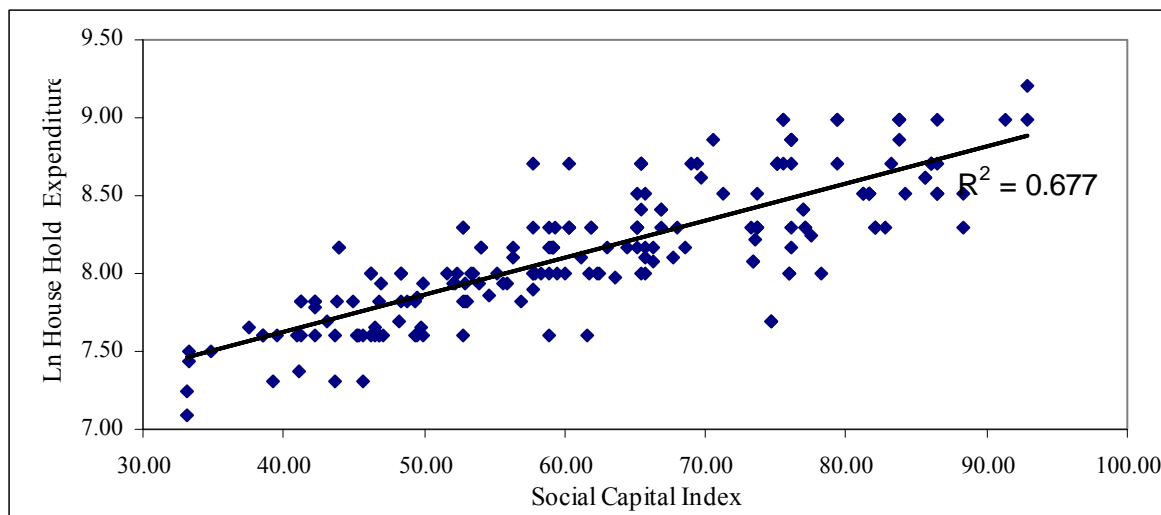
L=Low

4.11 Social Capital and Household Wellbeing: Regression Results

A significant proportion of existing literature on social capital has attributed that well endowed society in terms of social capital can persuade the well being of the society. Above discussion also has been leading us to the conclusion of positive role of social capital formation. Such conclusion leads the policy makers to pay attention to the formation of quality social capital. This study has been engaged to explore whether the above stated hypothesis is valid for the data collected from a primary survey. However, what indicator should be used as the proxy of well being of the household was raised. As well being of a household is mostly reflected in the expenditure of that household,

household expenditure would be a quality proxy of well being of a household. The dispersion in household expenditure was attributed high, that lead to take the natural log of expenditure to avoid the presence of heteroscedasticity. Asset holding like land, cattle, etc. and achieved years of schooling mostly determine the household expenditure through affecting the household income. Apart from these, the study was trying to establish the link that level of social capital significantly determines the household expenditure influencing the income level of the households. Scatter plot in Figure 1 has shown that there was affirmative association between social capital index and household expenditure.

Figure 1: Social Capital Index and House Hold Expenditure



Data Source: Survey Data

To check the hypothesis empirically, following equation was estimated:

$$LnExp = \alpha + \beta ASSET + \delta SYRS + \eta SCI + e \dots\dots\dots(1)$$

Where, LnExp denotes the household expenditure,
 ASSET represents the household’s tangible asset holding,
 SYRS denotes schooling years of the head of the household; and
 SCI represents the social capital index that is determined by the endowment of the social capital of the households.

Apart from the link between social capital endowment and household expenditure, the study was motivated to examine whether the health status of a house hold has been influenced positively by the social capital endowment of the household. This motivation had led us to estimate the following equation:

$$HSI = \alpha + \beta ASSET + \delta SYRS + \eta SCI + e \dots\dots\dots (2)$$

Where, HSI stands for health status index of the household others variables were same as in the previous equation.

The results from the estimation of both equations have been represented in table 4.11.1. The result from the first regression implied that household’s asset holding as well as schooling years of household head are the significant determinants of the household expenditure. In addition to the estimated effects of asset holdings and schooling years, household expenditure is influenced strongly by the household’s social capital endowment. The coefficient of 0.019 implies that a percentage point increase in the score of household’s social capital index will lead to increase the household expenditure by 1.9 percentage point. The equation treating household expenditure as dependant variable yield relatively high adjusted R square value as a cross section model. To capture the relative importance of the social capital, first equation was estimated excluding social capital index and found that inclusion of social capital increased the value of adjusted R square from 0.475 to 0.755.

The ρ value of obtaining an F value in first equation is almost zero; leading to the rejection of the hypothesis that together household’s asset holdings, schooling years of household head, and the social capital index have no effect on the expenditure of the household. The Durbin Watson statistic was 1.8038. The null hypothesis of no autocorrelation may not be rejected at any of 1% level, 5 % level and 10 % level. The F statistic based on Ramsey’s RESET test is highly insignificant, that reject the null

hypothesis of model misspecification; indicating that the model is correctly specified. Normality test based on a test of skewness and kurtosis of residuals shows that residuals are normally distributed. Diagnostic test on heteroscedasticity based on the regression of squared residuals on squared fitted values show no evidence of the presence of heteroscedasticity. As both the 'F' value and 't' ratios are significant, we can conclude that there is no multicollinearity among the regressors. Moreover, we run auxiliary regressions for detecting multicollinearity. But the auxiliary R^2 values were very low and as the overall R^2 are greater than the auxiliary R^2 , following Klien's rule of thumb, it was concluded that multicollinearity was not a problem in the function. The VIFs was close to 1 which confirmed that multicollinearity was not a trouble in the estimated function.

The impact of social capital endowment over the household's health status was also examined by estimating the equation 2. Estimated result has been leading to the conclusion that social capital index as well as schooling years of household head significantly influence the health status of the household. But, in case of asset holding, the coefficient was not only insignificant, but also did provide reverse sign. It implies that asset holding does not always play the role in determining the health status of a household. Diagnostic test for serial correlation confirmed the absence of serial correlation. The F statistic based on Ramsey RESET test was found insignificant which indicated that the estimation did not suffer from functional form problem. As the VIF is close to one, presence of multicollinearity was not a serious problem in the estimation. But the estimation was suffering from heteroscedasticity. As the data was cross-section in nature, the presence of heteroscedasticity was not unexpected. To solve the problem of heteroscedasticity, White's heteroscedasticity adjusted variance-covariance matrix was used in the estimation of regression that is reported in the third column of table 4.11.1.

Table 4.11.1: Regression Result

Dependant variable	LnEXP	HSI	HSI†
Intercept	6.70*	-0.684	-0.68
ASSET	0.004*	-0.024	-0.024
SYRS	0.038*	0.807*	0.87*
SCI	0.019*	0.739*	0.739*
Adjusted R ²	0.755	0.527	
Overall significance of the model	F (3, 196)= 205.80*	F (3, 24)= 73.8060	
D W Statistic	1.8038	1.9949	
Serial Correlation	F (1, 195)= 1.877	F (1, 195)= 0.00029	
Functional Form	F (1, 195)=0.8057	F (1, 195)= 1.241	
Normality	$\chi^2(2)= 0.865$	$\chi^2(2)= 7.42^*$	
Heteroscedasticity	F (1, 198)= 2.498	F (1, 198)= 7.83^*	
VIF ⁿ	1.33	1.33	
Sample size	200	200	

* denotes significant at 5 percent level while † represents the White's Heteroscedasticity adjusted result.

Despite the presence of heteroscedasticity was removed, the significance of the variables were remain same. Slope coefficient of schooling years of household head has been improved slightly from 0.81 to 0.87.

When health status index instead household expenditure was used as proxy of house hold well being, coefficient of determination, adjusted R square, has been falling to 0.527 from 0.755.

To test the stability of the regression coefficients, cumulative sum of squares of recursive residuals were plotted (Figure 2 and 3) for both regression and in both cases; the plotted lines were in critical bounds at 5 percent level, which implied that coefficients from both regressions were stable.

Figure 2: Plot of cumulative sum of squares of recursive residuals from the regression when household expenditure is dependant variable

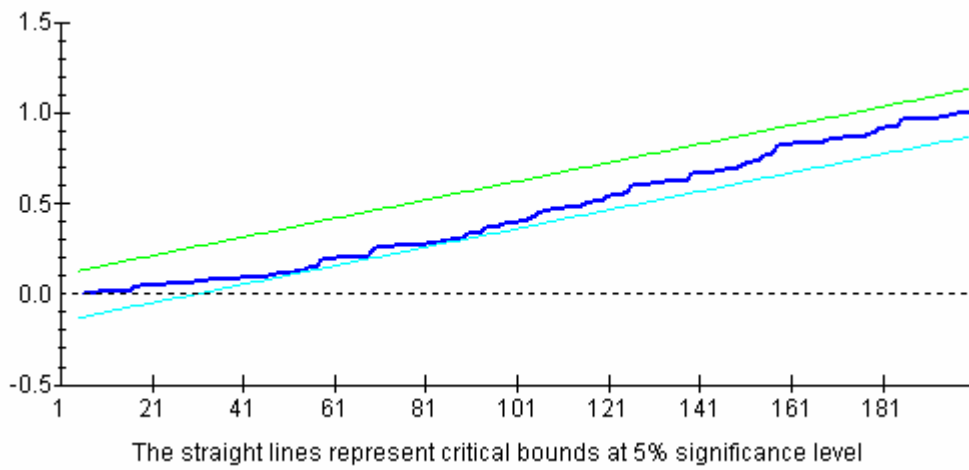
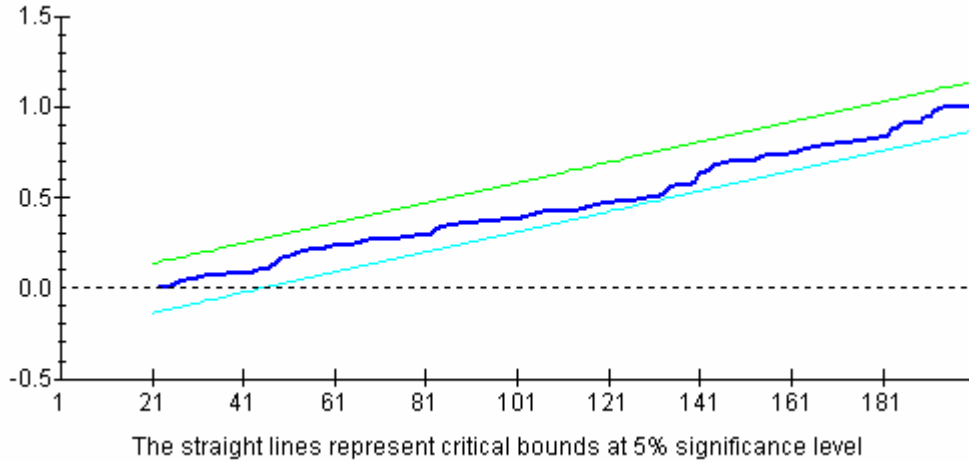


Figure 3: Plot of cumulative sum of squares of recursive residuals from the regression when household health is dependant variable



Therefore, social capital endowment of a household significantly and stably influence the household well being whatever it is measured by household expenditure or health status of the household.

5. Social Capital and Collective Action

This section answers the third research question about the relationship between social capital, CBO performance and collective actions. This section compiles the evidences of the significant collective actions taken place in the communities under the study. This part is written on the basis of the FGDs done in the villages. Only selected collective actions that occurred in the recent past are compiled here. Here mainly the incidents happened in the communities with high social capital are included because in the communities with low stock of stock of social capital, collective action was hardly found to take place.

5.1 Capturing and Managing Common Property Resources

Among the study areas four villages are endowed with common property fisheries resources. These villages are Dharmadas, Jalalpur, Mithipur and Bhagbatipur. All the four villages have common property resources in the form of water bodies. However original fishermen had no access to these water bodies because these were mainly under the capture of the elites of respective villages. Under the CBFM-2 project, the WorldFish Center recognized the real fishermen and pursued them to form groups. Ultimately these fishermen group could take the possessions of the water bodies from the elite capture through proper way of leasing being helped by the Department of Fisheries (DoF) of the Government of Bangladesh (GoB). However after getting the possessions the responsibility of management of the water bodies came upon the shoulders of the CBOs and the members of the community who were mainly fishermen. It was found that that performance of the CBOs varies from villages to villages and extent of collective actions also differs in the villages. For example, Dharmadas and Jalalpur-these two were showing very good performance in this respect. Before the initiatives of the CBOs, these two villages were always very conflictive because of the possession of the water bodies.. Even the local Govt. leaders were against the CBOs at the beginning. However the CBOs could manage to end the conflict with the elites by organizing dialogues and negotiating with them. Now the Local Govt. leaders are with the CBOs and they also monitor the CBO activities for the betterment of the organization. Previously, these fishermen

communities were not organized at all. They could not fight or dare to conduct dialogue or negotiation with the elites. Rather some members of the community were involved with the elites as their extended hands. However after forming a group and being organized they could go for some collective actions.

In case of managing of the water body Dharmadas and Jalalpur showed some successes. All these villages could establish sanctuary for fisheries resources. However Bhagbatipur village community could not show success like this. When they are asked about this they reported that because of lack of trust they could not establish any example like sanctuary.

5.2 Collectively Built Approach Road

In Bangladesh, construction of village road is the responsibility of the local government. However they only construct the main roads in the villages. Other than the main roads some approach roads are also needed for the communities to access their fisheries resources, schools etc. It was found in the Jalalpur that villagers contributed land for building an approach road to the water body so that vehicles of the buyers can reach there. CBO members collectively convinced the land owners closed to the water body to contribute land. Another example was seen in Auliapur that community people provided their Physical effort to build an approach road to the primary school.

5.3 Protecting Early Marriage and Domestic Violence

Early marriage of female is a big problem in rural Bangladesh. It makes the female underpowered for the whole life and she has to face many dangerous problems including maternal health. In many areas of rural Bangladesh early marriage is a common practice. However this study found some collective actions against early marriage in the past and present in some villages under the study. There are CBOs like Gender Change Committee (GCA), Mother's club were found in the villages Dharmadas, Auliapur, Jalalpur and Amla. These kinds of CBOs mainly work for protecting women's right. The CBOs like GCA consists of community members, school teacher, marriage registrar and even school children. If they get any information about early marriage in the village they usually try hard to protect it initially by advocating the parents and further by involving local

government into this. As early marriage is forbidden in Bangladesh (For female 18 years, male 21 years) sometimes they complain to the police also if all other efforts fail. In this way these CBOs could protect number of initiatives of early marriage.

Domestic violence is another burning problem in patriarchal rural traditional society in Bangladesh. In the villages of Dharmadas, Auliapur, Jalalpur and Amla the aforementioned CBOs are also working to protect domestic violence that happens against women. These CBOs usually conduct informal advocacy session with the households where they find any report about domestic violence. Usually the person responsible for these kinds of violence is threatened to be excluded from the civic activities of the village.

5.4. Participation in Budgeting at the Local Government (LG) Level

In the villages Auliapur, Jalalpur, Amla and Dharmadas, evidence of participatory budgeting at the local government level was found which is somewhat rare in Bangladesh (Rahman 1998). In these villages there are CBOs like Mother's club, Health Club, Education Club, Old Age Club etc. These CBOs are participating in local govt. budgeting so that more allocation is confirmed for maternal and child health care, disable supports, education emphasizing female education, vulnerable group feeding (VGF) for the destitute of the villages. In some places local govt. leaders are compelled to listen to and implement their demands about allocations in these sectors. Actually when these people demand something collectively, the Local Government are compelled to respond as they are a potential vote bank for them However LG leaders usually do not care about any individual demand.

5.5 Disaster Management

Bangladesh is a disaster prone country. Floods, cyclones, landslides are common disasters that take place in Bangladesh. Social capital and resilience among the community people are very much needed to recover from these disasters in a country like Bangladesh. In our study area, Auliapur is very much vulnerable to cyclones and tidal bores. From the FGD it was informed that there are volunteers' groups in this village who work for disseminating the early signals of cyclones of tidal bores and help people to go to the cyclone shelter center with their family members and belongings. Actually in a

developing county like Bangladesh, these kinds of social resilience essential for fighting against these kinds of disasters.

5.6 Ensuring Maternal and General Health Care

In the villages Auliapur, Amla, Jalalpur and Dharmadas some very impressive collective action was observed regarding maternal health of the pregnant women. In these villages mothers' clubs associated by other CBOs bought some traditional van (a manually driven three wheeler vehicle) and a cell phone was given to a poor man of the village on condition that he is bound to carry any patient of the village to the nearest health care center if needed. The man can earn his income with that van in regular days and he takes the patients to the health care center if he gets a call in his cell phone. It is really a great initiative in the context of rural Bangladesh.

6. Conclusion

In this paper a trial was made to investigate the role of social capital and Community Based Organization in rural development in Bangladesh. It is evident from the study that there is a strong relation between social capital and the performance of the CBOs. Communities with strong social capital are also associated with well performing CBOs and collective actions are more likely to take place in these communities. From this study, it can be commented that if social capital acts like an engine then CBOs are the drivers for collective actions and development. From the quantitative analysis it can be said that social capital and CBOs' performance may not ensure the development of physical infrastructure however it significantly influences to achieve social indicators like health services, better participation, gender equality, education attainment, access to credit, inclusiveness, community harmony etc. and environmental indicators like access to sanitation and drinking water, waste management etc. Moreover, a significant positive relation was found between social capital and household well being in terms of expenditure and health status. At this point, social capital can be considered as a precious and significant wealth of the households like human capital and physical capital. However the role of the CBOs should be recognized as well with same importance as social capital. Policies for rural development in Bangladesh should recognize social capital and CBOs' role in rural community development.

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Annex A: Household Questionnaire

NB: A small modified Bangla version of the questionnaire suggested by SOCAT of the World Bank was used in this study . The broad areas covered by the questionnaires are provided here:

1. Identification of Selected Household:
2. HOUSING CHARACTERISTICS AND HOUSEHOLD ROSTER
3. Domestic Violence
4. STRUCTURAL SOCIAL CAPITAL
 - 4A. *Organizational Density and Characteristics*
 - 4B. *Networks and Mutual Support Organizations*
 - 4C. *Exclusion*
 - 4D. *Previous Collective Action*
5. COGNITIVE SOCIAL CAPITAL
 - 5A. *Solidarity*
 - 5B. *Trust and Cooperation*
 - 5C. *Conflict Resolution*

Annex B

Community Questionnaire: One for Each Village

NB: A small modified Bangla version of the questionnaire suggested by SOCAT of the World Bank was used in this study. The broad areas covered by the questionnaires are provided here:

1. COMMUNITY CHARACTERISTICS

2. PRINCIPAL SERVICES

2A. *Electricity*

2B. *Public Lighting*

2C. *Drinking Water*

2C.1 What part of the community has pipe-borne water?

2D. *Home Telephone Service*

2E. *Communication Services*

2F. *Sewage*

2G. *Garbage Collection*

2H. *Public Market*

2I. *Transportation*

2J. *Recreation*

2K. *Security*

3. LABOR MIGRATION

4. EDUCATION

4A. *Preschool*

4B. *Primary School*

4C. *Secondary School*

4D. *Adult Education*

5. HEALTH

6. ENVIRONMENTAL ISSUES

7. AGRICULTURE

8. COMMUNITY SUPPORT

Annex C
CBO Performance Checklist

Indicators of Financial Management
CBO has fund and Accounts in a bank
Regular Audit
CBO operates its own credit
Legal Status
CBO is Registered /legal status
CBO members are registered
CBO constitution
Management and Daily Administration of Activities
Accountability relationships
Record Keeping
Human Resource Development
Training of members in management
Leadership capacity developed
Regular Meeting of CBO
Indicators of Democratic practice and participation
Regular Attendance in the Meetings
Participatory Decision making and Follow-up
Democratic-executive is elected
Equity, fairness and equal shares
Indicators of communication with external bodies
CBO has links with official bodies
Exchange visits for CBO
CBO has networking capacity
Links with Local Elites
Long term goals of fisheries development and policy formulation
Water Body Management Plan
CBO has vision to develop fisheries
CBO can monitor fishery resources
aware of conservation measures