

Formation and Function of Social Capital for Forest Resource Management and the Improved Livelihoods of Indigenous People in Bangladesh

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Abstract

This paper examines the status and formation of social capital, and its contribution to forest resource management and to the livelihoods of Bangladeshi indigenous ethnic groups in these forest environments. We draw on empirical data from three villages associated with two participatory forestry projects. Components of social capital were associated with both enhanced livelihood of villagers and improved forest conditions in terms of area, stock, growth and diversity. Where the project (e.g. the Upland Settlement Project) authority failed to build up social capital, non-government organizations (NGOs) stepped in to play a pivotal role in the formation of social capital among the villagers. Even though NGOs created bonding social capital, villagers, however, further expanded their networks through the formation of bridging social capital that helped them to capture several local government social development services. High social capital was found to be related to better forest condition. Recommendations are made to involve NGOs along with other stakeholders for greater success in such participatory forestry projects.

Keywords: social capital, forest resource management, forest conversation, indigenous ethnic groups, participatory forestry projects

1.0 Introduction

The concept of social capital has emerged as a framework for understanding and analyzing the relationships among stakeholders involved in community development, and has come to the forefront as a crucial ingredient in achieving equitable and sustainable development (Abom, 2004, p. 342). Despite its current popularity, the term has become generalized, often becoming ambiguous and confusing (Abom, 2004; Durlauf, 2002; Lehtonen, 2004). It has its roots in a number of theories, including those of social support and social networks, as well as community participation and governance (Grant, 2001). Social capital can be defined as the features of social

organizations that facilitate co-ordination and co-operation for mutual benefit of the members and society as a whole (Putnam, 1993; 1995; 2001). These features include networks, reciprocity, norms and trust (Bowles & Gintis, 2002; Carroll, 2001; Coleman, 1990; Grootaert & Bastelaer, 2001; Putnam, 200; Uphoff & Wijayaratna, 2000) that encourage collective action to achieve more sustainable development (Carney, 1998; Pretty & Ward, 2001; Woolcock, 2001). Collective action is recognized as an important component of rural development and local-level natural resource management (McCarthy, Dutilly-Diane, & Drabo, 2004). Through collective action, the flow of benefits from natural resources can be conserved and more equitably distributed among participants (Jagger & Luckert, 2008, p. 139).

In recent years, there have been some remarkable shifts in state policy in many parts of the world regarding forest and other resource management with an emphasis on collective approaches to the formation of social capital at community level. In many circumstances, social capital can be considered as a pre-requisite for the sustainable management of natural resources (Pretty, 2003). It empowers people in meaningful ways to pursue conservation objectives (Dale & Sparkes, 2007). The efficiency of social capital in devolution programs based on participatory governance and collective actions of local populations have made it a cornerstone for sustainable development policy (Ballet, Sliven, & Requier-Desjardins, 2007). By fostering social capital people can be prompted to act at a community level and to work together for mutual benefit on environmental initiatives (Miller & Buys, 2008, p. 245). Investment in social capital yields both tangible returns for market (e.g. income, wages) and non-market (e.g. health, social status) outcomes (Godoy et al., 2007, p. 710). It further facilitates interactions that allow for an exchange of ideas and information, and access to resources such as time, money or knowledge necessary for practicing different livelihood-earning activities and for avoiding the poverty trap through economic growth (Ishihara & Pascual, 2009; Lauber, Deckerr, & Knuth, 2008; Mazzucato, Niemeijer, Stroosnijder, & Roling, 2001; Peng, 2004).

Donor-funded projects today seek to improve effectiveness and efficiency by sponsoring the formation of social capital in the form of groups (Carney, 1996; Upton, 2008, p. 175). Groups or organizations provide the entry point for efforts to work with community members (Schneider, 2004). For sustainability, rural development programs can be specifically designed to seek the emergence of organizations and enhance their effectiveness (de Janvry, 2003). Farmers' organizations could engage community members in a common income-generating activity to meet individual as well as social needs and to develop procedures to ensure the accountability of their leaders (Bingen & Munyankusi, 2002). Such social capital and the capacity of village leaders can have a multiplicative impact in influencing development performance (Krishna, 2004).

Social capital in the form of farmer's organizations, for example participatory forestry programmes in many developing countries and the landcare approach in Australia and in the Philippines, have helped new technologies and practices to be adopted for better conservation and production outcomes (Cramb & Culasero, 2003). Organizational capacity leads better land use and natural resource management to augment higher overall incomes (McCarthy et al., 2004). Strong networks among social organizations, other civil societies and government actors prevents other actors from expropriating natural resources (Bebbington, 1996) and through these networks local people can influence state policy (Fox, 1996;

Grootaert, 1998). Strong networks between public institutions and organized communities can be mutually supportive tools for development (Evans, 1996).

Nevertheless, idealistic visions of social capital as a panacea for resource management have been challenged (Ballet et al., 2007). Social capital has costs that can lead to adverse effects such as exclusion of outsiders, excessive claims by insiders, restrictions on individual freedoms, and perpetuation of backward norms (Quibria, 2003). Just as with other types of capital, social capital can be put to negative or positive social uses; it has benefits and costs for both the participants and for society at large, and its externalities must be considered when values to insiders and to public welfare diverge (Carroll, 2001). While it may provide essential support to its members, a community with a high level of social capital may also hold them back in other ways through restricting opportunities for innovation, education or engagement with markets, or by imposing costs on other groups that have been excluded from membership (Cramb, 2004).

2.0 Objectives of the Study

The use of social capital in natural resources management evolved in the early 1980s when collaborative natural resources management in many developing countries had emerged. Several forms of collaborative forest management including community forestry, social forestry and participatory forestry have been implemented in Bangladesh since the late 1980s by involving local people and formation of forest user groups. However, little is known about the social capital status of forest user groups and its role on forest conservation. Most research related to social capital in Bangladesh (for example, Dowla, 2006; Mondal, 2000) focuses on the role of non-government organizations (NGOs) in creating social capital among rural poor. Purvez (2005) explained the importance of social networks for the livelihoods of the poor drawing some case studies in plain areas of Bangladesh. To our knowledge, there is no referred research relevant to social capital and its importance to livelihood of Bangladesh indigenous communities and the conservation of forests. In this study we examine i) the status and formation of social capital among indigenous people, and ii) how this capital contributes to their livelihoods and forest conservation.

3.0 Methodology

3.1 Study Sites

Data for the study was gathered from three case studies in two study sites. The study sites are located in the Upland Settlement Project (USP) in Bandarban district of the Chittagong Hill Tracts (CHT) and in the Khasia forest village in Sylhet forest division (Figure 1). The USP and Khasia forest village are both considered as participatory forestry projects where indigenous people are engaged as project participants (Nath & Inoue, in press). We selected these projects because these were ongoing projects and project authorities intended to manage forests through the participation of local people. A comprehensive description of the study sites is in Nath and Inoue (2008a, 2008b).

The USP in Bandarban has ten project villages and Sylhet forest division has six registered Khasia forest villages. We selected three villages, two from the USP and one from Khasia forest villages. We denote two USP villages as ‘village A’ and ‘village B’, and Khasia forest village as ‘village C’ in order to protect their identity.

Prokopy (2008) proposed that it is significant to protect source confidentiality and location confidentiality when publishing social research findings. Twenty four (out of 48) and 19 (out of 38) households of village A and village B, respectively, and 21 households out of 23 from village C were surveyed.

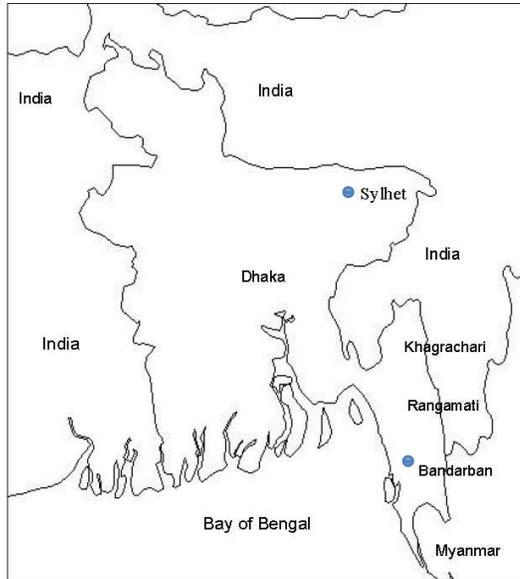


Figure 1. Map of Bangladesh showing the study sites

3.2 Variables of Social Capital

Though social capital is considered as a development tool in the policy level, obtaining a single measure of social capital is not straightforward owing to its multidimensional definition, nature, and capacity to change over time (Woolcock & Narayan, 2000). Different measures have been posited as indicators of social capital (Paxton, 1999), and there is no consensus on appropriate measures (Kramer, 2007). Here we considered social connections, groups and networks, level of trust, social cohesion and inclusion, collective activities and participation as proxies for assessing the state of social capital among the villagers. These were related to three types of social capital namely bonding, bridging and linking social capital (Hall & Pretty, 2008). Bonding social capital is the relationship between villagers who share similar values while bridging social capital means working effectively with those who have dissimilar values and goals. The ability to engage positively with those in authority is linking social capital.

Social connectedness in different networks and groups and their nature of relations is a crucial facet of social capital (Woolcock, 1998). Connectedness in society has great effects on rural livelihoods and can be improved by growing frequency of communication and mutual support between households or created by forming groups or cooperatives (Putnam, 2001; Wu & Pretty, 2004), which enhance the stock of social capital. Human networks and connectedness increase people's trust and ability to work together and expand their access to wider institutions such as political and civic bodies (Inoue, 2003) which help to achieve political and civil advantages for the outcomes.

Trust facilitates greater cooperation for services benefiting a group, society or association (Fafchamps & Minten, 1999). Moreover, if a society is predominated

by distrust, cooperative development is implausible to come forward (Baland & Platteau, 1998). Trust creates social obligations, building reciprocal relationships and exchanges among neighbors. Reciprocity increases trust which can be useful to acquire optimistic environmental consequences (Coleman, 1990). Social capital is self-reinforcing when reciprocity increases connectedness between people which leads to build trust, confidence and capacity to innovate technologies (Pretty et al., 2001). Social connections and reciprocal trusts encourage people to participate jointly for the development of the society and improvement of the natural environment. Participation affects the collective action of organizations (Kramer, 2007).

3.3 Data Collection and Analysis

Household interviews and informal group discussions were undertaken in May and September 2005. An open-ended questionnaire was used for each household and the questions were related to following aspects of social capital:

- *Groups and networks*: number of organizations and members involved, household communication network (HCN), number of people willing to and currently able to help by giving money;
- *Trust and solidarity*: trust in village people, people of same ethnic group, people from other ethnic group, village leader, leadership, level of trust in last five years;
- *Social cohesion and inclusion*: feeling of togetherness, social stratification;
- *Collective activities*: collective activities they performed for social development, how many days in a year;
- *Participation*: level of villager's participation in project activities, decision making processes.

The HCN was defined as the number of household's relatives, neighbours or kin with whom they can share feelings, request for help or seek loans in an emergency. Averages of Likert scales (for examples, 1 = agree strongly through to 5 = disagree strongly) were used for assessments.

Three group discussions, one in each village, were also held and additionally staff members of the USP and the forest department (FD) were also interviewed at all study sites. Five to six villagers attended a group discussion in each village and they were asked to comment on relationships among villagers, neighbours and with project officers, asked about formation and roles of social organizations for social development, and their participation in project functions. They were also asked about collective activities that contribute to forest conservation and their livelihood improvement. Project officers commented on their linkages with villagers that help the continuation and achievements of project functions. Separate open-ended questions were used to facilitate the discussions.

Homestead forests and agroforestry plots of the sampled households were visited and the species composition were enumerated. Tree growth and stock were estimated by the authors and respondents.

4.0 Study Findings and Interpretations

4.1 Status and Contribution of Social Capital

In rural societies, people are connected with each other for their daily life. Some have personal relationships while others have organizational links. In analyzing the status of social capital, first we look at groups and networks followed by trust and solidarity, social cohesion and inclusion, collective activities and participation. These interrelated variables are illustrated below.

Groups and networks

Formal and informal organizations relevant to social development intervention may exist in a village. In each studied village, apart from traditional social associations, there were some formal organizations including project village committees and NGOs that carry out social development work. All sampled households in the three villages were engaged with more than two organizations and at least one person per household was actively involved with these organizations (Table 1). We discuss the importance of organizations in later sections. Across three villages, the average values of HCN were 10 (village C), eight (village A), and four (village B), respectively (Table 1). Higher values of HCN indicate that these villagers have more connection with people than other villagers, which is consistent with the latter two variables of groups and networks as well as variables of trust and solidarity, and social cohesion and inclusion. This connectivity enabled villagers to achieve livelihood benefits. One respondent of village A said:

“I was a lease-farmer cultivating on other’s agricultural land and lived in Chandragona, about 40 km away from the project village. My elder daughter who lives with her family in village A informed me that the government would be taking a settlement project (i.e., USP) and requested to contact with *karbari* (village leader) who is one of our relatives. After meeting and talking with him along with project staff, the USP authority had selected me as a project participant. Now I have project land, homestead and share in project revenue generated through rubber cultivation. Moreover, some of my household members obtained jobs in project functions”.

Another villager who was a landless farmer and had been working as a wage labourer in the fields of a landlord said:

“One day my landlord said me that a government settlement program was being implemented in village A where the settlers would get land, ready-made houses, settlement money and employment in project activities. Then I contacted *karbari*, applied for and was selected”.

Table 1. *Selected variables of social capital in the three villages*

Variable	Study Villages		
	Village A	Village B	Village C
Groups and Networks			
No. of organizations involved	2	3	2
No. of members involved	1	2	1
Household communication network	8	4	10
No. of people willing to help by giving money in emergency	5	2	6
No. of people currently able to provide this money	3	2	5
Trust and Solidarity			
Opinion on the statements ^a			
Most of the village people can be trusted	4.3	3.5	4.5
Most people are willing to help if needed	3.5	2.5	4.3
Trust in ^a			
People of same ethnic group	4.0	3.8	5.0
People from other ethnic group	3.8	2.7	-
Village leader	4.0	3.5	5.0
Leader responsiveness	4.0	3.5	4.8
Level of trust in last five years ^b			
Going to be better	8	53	-
Getting worse	-	37	-
Stayed at the same	92	10	100
Social Cohesion and Inclusion^b			
Feeling of togetherness or closeness			
Somewhat distant			
Neither distant nor close	-	26	-
Somewhat close	96	32	24
Very close	4	26	76
Social stratification			
Neither great nor small extent	42	58	5
Small extent	58	42	14
Very small extent	-	-	81

Note: a = Figures are the averages of five scales used [1 = to a very small extent, 2 = to a small scale, 3 = neither small nor great extent, 4 = to a great extent, 5 = to a very great extent]. B = Figures indicate percentages of households.

Similar situations were observed in village B where many landless farmers far from the project village were selected because of their connections with relatives or neighbours. These bonding (connection to relatives or friends) and bridging (patronage relations) social capitals not only helped them to get selected as project beneficiaries, but these relationships offered them other benefits too. For example, Khasia people usually practice their traditional and organic betel leaf agroforestry system and do not apply inorganic fertilizer. But one household, being inspired by relatives, applied chemical fertilizer and increased production of greener and broad betel leaves which then fetched higher market prices. Their networking also helps to get financial assistance during emergency. One person of village A reported:

“I was working as a manager in a private rubber garden owned by a national politician. Accidentally I had a major surgical operation for which I could not work for five months. The owner of the garden paid all my medical expenses and gave me salary of those five months. Now I have resumed the job again”.

This indicates that good reputation and friendly relationships created the faith in the garden owner who then had confidence that the manager would operate the industry smoothly. Among the villagers, they also believe that they would get help from neighbours in urgent situations. More than 30% of households across three studied villages reported that they obtained financial help either from relatives, neighbours or friends. They also commented that many people were willing to help them if they wanted. Villagers generally said that they had faith that borrowers would pay back loans. Turner (2007) observes that high-trust networks based in close family, relatives, neighbours or friends positively support villagers to access informal financial capital sources.

Villagers also possess linking social capital with business people, politicians and government officers through which they obtain livelihood benefits. A small village trader of village A noted:

“When I established a rice grinder machine in the village that cost around Tk. 30,000 [1 US\$ = Tk. 65 in 2005), I requested the whole seller from whom I purchase goods for my business, that I would buy goods for two months on credit. As we had congenial business relations, he agreed to sell produces on credit and finally I could install the rice grinder machine to expand my business”.

In village B, there is an elected member of the local union council who had friendly relations with the union council chairman as well as with other political leaders. Through these relationships, he had been able to conduct several social development works (for instance, construction of road) in his village. Connectedness in groups and networks further helped villagers to build up bonding, bridging and linking social capital which in turn generated trust among villagers that assisted them not only to draw livelihood benefits but also to live together in remote villages.

Trust and solidarity, and social cohesion and inclusion

Due to indigenous composition, the length of time living together and developed personal relationships, there were different levels of trust across the three study villages (Table 1). Being homogeneous in indigenous composition and living

together for more than 50 years in the same village, the level of trust (4.5) among Khasia people were stronger than the villagers of two other villages (4.3 and 3.5 for village A and village B, respectively). Even though villagers of village A and village B had been settled at the same time, there were differences in trust. The reasons for such variation were that most of the villagers in village A have family relationships and the majority of Marma people have a good understanding with the Chakma and Tongchangya people though they have a different culture. On the other hand, in village B dominant Marma villagers have a conflicting culture with the minority Chakma and Tongchangya people resulting in low-level of trust in each other. In village B, we observed two types of villagers: i) settlers (Chakma and Tongchangya people) who joined the project from distant villages, and ii) original villagers who joined the project from adjacent villages. Settlers reported having low level of trust even in their own indigenous people because they came there from different areas of the CHT. Turner and Nguyen (2005) reported that trust occurs among a relatively narrow circle of family and close friends, whilst there is considerable distrust in outsiders.

Levels of trust have differential impacts on daily life. For example, the settlers in village B do not obtain any help (e.g., a loan) from the Marma (original) villagers because of the low-level of trust in each other. The higher level of social capital among original villagers imposes restrictions on settlers in obtaining monetary help. In contrast, one Chakma woman of village A reported when she needs any help (such as monetary or material) she obtained this from a Marma village trader. The trader commented that due to 12 years of interactions he had faith in the woman that she would pay back the loan in the due time.

The level of trust affects social cohesion and inclusion. The majority of the villagers (76%) in village C reported having very close feelings of togetherness among them while 96% and 32% villagers of village A and village B have somewhat close relationship among them (Table 1). Most of the villagers (42%) of the village B have neither distant nor close relations. Settlers have even somewhat distant feelings of togetherness.

Collective activities

We found evidence of collective action in all three study villages except in the settler's hamlet of village B. On average, all worked collectively five or six days a year. The village development committee of village B employs four volunteers for two months for the care and protection of water supply infrastructure established by GROUS (a local NGO). After two months another four volunteers are employed. In this way they keep the village water supply safe. In village A, villagers collectively repair the earth dam (*gudha*, 91m long and 30m wide) that holds water year round. For drinking water, they collectively dig pits (*kua*, 1.8-2.4m circumference and 0.91-1.2m depth) in streams or at the base of hills from where they could collect seepage water, especially during the dry season. We observed collective farming practices there. Villagers with support from GROUS collectively cultivate ginger. The villagers in both USP villages collectively repair village roads and maintain the *kheyang* (Buddhist temple). However, the settlers' involvement was limited to *kheyang* development and annual religious festivals.

Villagers of the village C take part in social development activities including repairing access roads, maintaining wells and prayer halls. Households donate equal amounts to cover costs needed for maintaining wells, roads, and prayer halls. In addition to social work, we observed collective action in farming activities. If

any household needs weeding on its agroforestry plots, it invites some villagers to help, and for this, the household arranges a feast for those who help. In addition, as an obligation to the forest department (FD), villagers collectively patrol the forest and take part in plantation development.

Participation

According to the USP project proposal, the villagers were supposed to participate in project implementation activities. Some villagers attended project meetings held near the villages on five to six occasions during the 3-4 years of the project. They listened but were not asked to provide any input at the meetings. These were intended to motivate the villagers to live harmoniously and to plant trees at their homesteads. Leaders attended some project meetings that discussed policy and project works, but again played no part in decision-making. The project manager took all decisions and his ordinate staff carried out instructions. In order to increase the sense of ownership among villagers, it is desirable to involve representatives of the project village committee in project meetings and decision-making processes. This ownership would encourage them to manage and protect the project resources for their own interests. This would also increase the level of transparency in project activities. Researchers (e.g. Pini & McKenzie, 2006) have argued that the sustainability of natural resource management is dependent upon effective participation of the community to create feelings of ownership. Direct community participation in decision-making and management would strengthen and enable the pursuit of environmental conservation objectives (Mendez-Contreras, Dickson, & Castillo-Burguete, 2008).

Villagers of village C participate in forest management only as unpaid labourers. In accordance with need, local personnel (Beat officers) call the village leader (*mantri*) to discuss the schedules of activities (e.g. nursery work, planting, and patrolling), and decide how many people they need for labour. The Forest Department also invites the leader to attend meetings. Though he does not play an active role in decisions made at meetings, the *mantri* feel fairly satisfied with their deliberative quality, decisions, and convenience. The *mantri* then convene meetings at the village to inform the villagers about the decisions taken at FD's meetings.

4.2 Local Organization: Entry Point for Social Capital Formation

In rural areas, especially those most remote, people are more dependent on each other for their livelihoods. This interconnected society, however, could not assist them to escape from poverty due to a scarcity of resources (natural, physical, human and financial capital), lack of appropriate leadership and presence of local elites. The human development report of the UNDP (1997) has emphasized that the formation of social capital in the form of local organizations where state policies as well as market forces, civil activism and community mobilization, contributes extensively to the eradication of poverty. Support for community and grassroots organizations within disadvantaged communities is an essential part of the social capital building process (Abom, 2004). Organizations that act as an intermediary between community and national organizations connect people with little power to those who have power (De Silva, Harpham, Huttly, Bartolini, & Penny, 2007, p. 22). Third parties can act as catalysts in social capital formation (Upton, 2008, p. 187), and local organizations can act as channels through which bridging or indeed linking social capital can emerge (Turner & Nguyen, 2005).

In the USP villages, the project authority in collaboration with project participants formed a nine-member village committee at the start of the project as an initiative to build social capital between villagers and project authority. The main task of the project village committee was to motivate villagers to protect raised rubber plantation and to be involved in day-to-day project functions¹. But we observed that the committee does not have any activities at village-level and did not have active involvement with project authorities. Hence, the formation of the village committee did not build an amiable relationship between villagers and project staff members, and hence failed to create a culture of working together for the success of the project (Nath & Inoue, 2008a). De Silva et al., (2007, p. 28) have indicated that the lack of working together can actually make the development status of some villages worse.

However, due to development of infrastructure (e.g. road networks) by the project, several NGOs did come forward to initiate their social development works in project villages. As part of their strategy, the NGOs first motivated the villagers to form village organizations, the entry point for the formation of social capital. In Bangladesh, rural development by NGOs has had better success in social capital formation through horizontal alliances among less privileged groups and women (Mondal, 2000, p. 461). In village A, there is a social organization with 7-member executive committee. All project participants as well as nearby villagers are also members of this committee that liaise with different organizations such as NGOs and conduct social development works such as *kheyang* development, maintenance of road, and collective farming. Members of the committee are selected according to their character, education and sincerity. The committee organizes 1-2 times meetings every month at the village and calls emergency meeting whenever needed.

In village B, a village development committee was formed in 2001-02 with participants of several USP villages (but not settlers). Previously there was a *kheyang*-based social organization mostly for religious festivals – mainly old people of the village were involved. The present organization (popularly known as the “committee”) consists of members mostly adults (20-40 years old), and serves as a 13-member functional committee, with all other villagers general members. One woman is vice-president and two other women are also members of the functional committee. All villagers in an annual general meeting select the members of the functional committee. The committee calls monthly meetings, and informs the villagers on the agenda before the meeting. The president (who is also leader of the village B) presides over the meeting. On any agenda item, all villagers have an equal ability to participate in discussions, before reaching a consensus decision. However, if a consensus is not reached, villagers can request the committee to call the meeting again to discuss the matter before attempting to make a decision. The general agenda in meetings includes social development works in collaboration with NGOs, maintenance of village infrastructures such as road, *Kheyang*, water supply and child education.

During the study we observed that besides credit operations by several NGOs, three NGOs have been implementing social development works (e.g. education, sanitation, livestock husbandry, construction of safe drinking water supply infrastructure, plantations programs and fellowships for child education) in collaboration with villagers in the studied USP villages.

¹ Source: USP meeting minutes in Bengali dated 17 February 1998, the USP office in Bandarban.

In village C, there is a *darbar*² committee. All household heads are members of this committee, which is chaired by the *mantri*. The *mantri* is selected hereditarily, but he/she should be literate, acceptable to the majority, be of sound health, and be able to liaise with the FD and other agencies. When he feels, for example, a need for road construction, or the FD wants plantation labour, then the *mantri* convenes a *darbar* meeting at his house. Every year four or five general meetings are called, and in most cases, all members attend. Members do not generally criticize each other if some members cannot participate occasionally, but warn if it happens repeatedly. Every member can participate in making decisions. First, the *mantri* states the agenda, and then all attendees participate in the discussion, reach a consensus, and finally make decisions based on majority support. Women also participate in local meetings. Villagers said that women attend at *darbar* meetings with their husbands, and play a role in decision-making processes.

In addition to the *darbar* committee, there is a savings committee affiliated with Caritas, a national NGO. Men and women over 12 years old can become a member. At present, there are 40 members. Every member deposits Tk. 20 per month. They can then obtain loans from this committee at a very nominal interest rate. However, the committee convenes meetings to decide the amounts and number of loans that can be given to members.

We observed that villagers of village C are strongly connected with other Khasia villages. All Khasia villages in Sylhet region form a Khasia welfare society that has a strong liaison with different national and international NGOs and several donor agencies. It deals with all problems and interests of the Khasia people and organizes a 36-hour seminar twice a year in different villages. This society has a very strong lobbying capacity that can be considered as linking social capital, to elicit decisions, which favour themselves.

Therefore, it is apparent that the NGOs not only facilitated the formation of social capital among villagers through formation of local organizations, but they played an important role in creating other capitals including human capital (e.g. education, capacity building), physical capital (e.g. livestock), natural capital (e.g. plantations) and financial capital (e.g. credit, savings) through which villagers' livelihoods have been improved.

4.3 Social Capital and Forest Conservation

Development practitioners have long been aware that even if programmes have the same level of overall assistance, their results vary considerably from one location to another (Krishna, 2004). A number of reasons, such as leadership quality and program staff effectiveness, can be suggested, and social capital is one other possible explanation that must be considered (ibid.). Djamhuri (2008, p. 83) observes that the extent and success of community participation in social forestry depends not only on the incentive structure but also on the social capital that exists in the community. In this study, we observed a positive relationship between social capital and forest conservation indicating that villages having strong social capital have better forest conservation outcomes (Table 2). From the variables of social capital (Table 1), it is apparent that villagers of village C have relatively strong

² *Darbar* committee means a village committee in a Khasia community which looks after day-to-day affairs. All decisions related to social development, festivals, resolution of social conflicts, duties in forests, and other matters are made by the *darbar* committee.

social capital followed by village A and then B.

In the USP, the project authority raised 81 ha of rubber plantation in one block in every project village, supplied all planting materials, fertilizers, and other material necessities. It was clear from discussions with project staff and villagers that the rubber plantation in village A was more than 90% tree-stocked and that the trees were growing satisfactorily in contrast to 30–40% tree stock growing in poor condition in village B’s rubber plantation.

Some project staff members said that thanks to continuous interactions with project staff, the villagers of village A developed trust in the project staff, and cooperated effectively in project activities resulting in the satisfactory conditions of the rubber plantation. Staff motivation also created awareness among villagers about the future economic benefits of the rubber plantation. Interactions and motivation provided the opportunity for exchanges of opinions and increased both trust and respect (Wagner & Fernandez-Gimenez, 2008).

In addition, strong and responsive leadership by the *karbari* also encouraged villagers to participate in the development and protection of their rubber plantation. As the *karbari* fairly distributes project jobs and benefits to villagers in need, they have faith in him and therefore follow his instructions for forest conservation. Distribution of equitable benefits to the participants is considered one of the major measures of success in participatory forest management (Pagdee, Kim, & Daugherty, 2006).

Table 2. *Forest Conditions in Three Studied Villages*

Variable	Village A	Village B	Village C
Existing Tree stock in			
Rubber plantations	>90%	30-40%	-
Agroforestry plots	-	-	>95%
Homestead forests	100%	70-80%	100%
No. of tree species in			
Homestead forests	44	23	25
Agroforestry plots	-	-	36
Tree growth conditions in			
Rubber plantations	Satisfactory	Not satisfactory	-
Agroforestry plots	-	-	Satisfactory
Homestead forests	Satisfactory	Satisfactory	Satisfactory
Households practicing <i>jhum</i>	-	53%	-

In contrast, villagers of village B did not establish a congenial relationship with project staff, mainly due to the lack of motivation and infrequent staff visits, and thus the project authority was unable to make villagers aware of the benefits of rubber plantations. The project village leader did not help to build bridging social capital between settlers and original villagers, which thus in turn affected the development of rubber plantations. All settlers mentioned their dissatisfaction with the leader’s activities and responsibilities. They told us that ‘the leader employed labour and guards for rubber plantation from his (original) village even though we

live very close to the rubber plantation'. Due to this distance in relations with project authority and village leader, the villagers showed little interest in protecting the rubber plantation.

Furthermore, taking advantage of the opportunity of the staffs' infrequent visits, villagers then encroached on much of the project's rubber plantation land to practice shifting cultivation. Witasari, Beilin, Betterbury, and Nettle (2006) report that decline in social capital caused continuing expansion of the farming frontier into the primary forests and copying of forest clearing practices for subsistence farming which is officially prohibited.

In village C, as villagers have mutual understandings with FD staff, they effectively cooperate on forest conservation through forest protection and participate in forest development works. Forest protection involves patrolling the forests with FD guards. Nine people in three shifts (three persons in one shift, each shift for eight hours) provide round-the-clock duty along the forest boundaries every day. This goes a long way toward protecting forests from theft, though it does not prevent all losses. Because of these patrols, the forests still look like deep natural forest. In addition to these nine people, the FD can call more people if it needs an emergency force to tackle organized gangs. Due to the friendly relations with FD staff, the villagers cooperate actively, even in the dead of night.

The FD carry out plantation activities almost every year. Villagers participate in all phases of plantation work from nursery preparation, to site preparation, planting, weeding, and other tasks. Due to readily available labour, the FD can run plantation programmes smoothly. Moreover, villagers plant seedlings of diverse tree species on their agroforestry plots. By visiting these plots, we identified 36 different tree species. Forest officers commented that though agroforestry plots do not support wildlife, overall biodiversity conditions of the forest are reasonably good. Villagers claim that 'As long as there are trees (forests), we can practice agroforestry.' It means that forests are indispensable for their agroforestry and conversely for their livelihoods. With this in mind, they effectively participate in forest conservation activities, and have been living in forests peacefully for more than 50 years.

5.0 Concluding Remarks

These findings show that there were very different levels of social capital among villagers in each of the three villages. Low levels of social capital were found to be related to poor outcomes of participatory forestry project in terms of forest conservation as well as livelihood of the villagers. This indicates that for better project outcomes, more emphasis needs to be given to invest in social capital formation. As project sites are located in remote areas where regular monitoring by project staff members is not possible, then the only feasible approach is to involve and build good relationships with project villagers who can then take care of and obtain benefits from project plantations. By increasing social capital through collaboration between agencies and villagers this may further benefit natural resources management (Wagner et al., 2008, p. 341).

In order to foster social capital, project village committees, with responsive leaders, need to be involved in project activities including planning and implementation. This will create a sense of ownership among villagers, which in turn will motivate them to participate in project activities. However, selection of a

responsive and sincere leader is not an easy task because influential people can have many supporters who favour for them being selected as leaders and they remain disposed towards their supporters and deprive others from social benefits (e.g. leader in village B).

NGOs play a pivotal role in the formation of social capital among villagers. Since most of the government development project implementing agencies either lack social scientists or rarely include them in mobilizing local resources (Nath et al., 2008a), it is imperative to involve NGOs, who have expertise in organizing local people, as a stakeholder of the project.

Involvement of NGOs and other stakeholders contributes not only to social capital formation and livelihood enhancement; they will also help to maintain a good governance at the local level which is considered a pre-requisite for sustainable natural resource management.

6.0 References

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