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Research article

Community Management of Forests and Social Capital in Tribal and Non-Tribal Villages of Odisha

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The paper focuses on the creation of different forms of social capital in the context of CFM (Community Management of Forests) in tribal and non-tribal communities in Odisha using case study method. What is found is that CFM has made a substantial contribution to the building of social capital. On the front of bonding, bridging capital, close similarities are observed between the tribal and non-tribal villages. The extent of linking capital is slightly higher in tribal villages than non-tribal villages.

Keywords: community forest management, social capital, tribal, non-tribal communities.

Introduction

It is widely known that the area under primary and natural forest is on the decline all over the world, including India, due to the forces like population growth, industrialization and urbanization. All this is impacting the food security situation in precisely those areas which are inhabited by economically and socially disadvantaged population. Destruction or degradation of forests is most likely to occur in open-access forests, where those involved with forest use and management or external authorities, have not established effective governance. Conventional theories applied to forest resources presumed that forest users were incapable of organizing themselves to overcome the temptations to harvest. However, empirical research has challenged this theory and illustrated the ways that forest users have devised rules that regulate harvesting patterns so as to ensure the sustainability of forest resources over time (Ostrom, 1999). According to Ostrom (1990, 1999), the possibility that the users of forests would find ways to organize had not seriously been considered in much of the policy literature till the 1990s.

Collaboration between formal governing bodies such as state agencies and non-governmental organizations and the public at large is conceptualized in the research field of co-management (Pinkerton, 1989; Carlsson and Berkes, 2005). One key factor for the success of co-management initiatives is that these actors, who are sometimes in open conflict with each other, develop some level of mutual understanding and trust. Trust develops over time and is often facilitated by the quality and quantity of social relations among individuals and organizations across organizational and contextual boundaries (Schneider et al., 2003). The research on Common Pool Resources (CPRs) has shown that there are numerous examples of cases where people have actually managed to come together to collaboratively manage their common resources in a sustainable way over long periods of time (Acheson, 1981; Fenny et al., 1990; Ostrom, 1990; Dyer and McGoodwin, 1994).

Community-based forest management institutions, or the sets of rules and norms that guide decisions about resource management by community members, have received increasing attention from governments, donors and NGOs over the past few decades. These organisations, seeing themselves as stakeholders in community-managed forests, have tried to understand how community-based institutions work and how they can be supported, reoriented or recreated to advance particular environment and development goals (World Bank 1992; Western and Wright 1995; FAO 1997).

Community management of forest has a long history in India. Travelogues of the early 19th century and old gazetteers present a picture of a well-stocked country with pastures and forest resources. What also finds mention is that these resources were controlled and managed fairly by the local village communities in the pre-British era. Restrictions on reckless and indiscriminate exploitation have always been the foundation of the social and cultural institutions developed by the people in various forest areas of India (Guha, 1983; Roy Burman, 1985; Gadgil and Berkes, 1991; Gadgil and Subhash Chandra, 1992). For many many years, there were social laws and norms that ensured people extracted just as much from the forests that did not cause resource depletion.

Studies in different parts of India (Roy Burman, 1985; Gadgil and Berkes, 1991; Gadgil and Guha, 1992; Gadgil and Subhash Chandra, 1992; Ghate, 2000, 2002; Guha, 1983; Sarin, 1996 etc., to cite just a few) point to the existence of communities that were consciously maintaining and managing the forests within their village boundaries at their own initiatives. In fact, in order to catalyze the processes of decentralized management, with or without government support, an informal network of NGOs too sprouted in the 1980s. Ghate and Mehra (2004) revealed that indigenously formed rules and conflict- resolving mechanism are found not only

to be more flexible and acceptable to the community, but also help in the development of mutual understanding, common norms, i.e., in building social capital. Sangita (2008) conducted case studies in Nayagarh district of Odisha to examine the relationship between CFM and social capital with a view to understanding the role of the state and the civil society in such relationship. According to her, social capital in CFM has come mainly from the initiatives of the local communities, youth clubs, NGOs and networks.

The present paper discusses an interconnection between sustainable management of forests and different forms of social capital. In the present times the idea of society is falling apart. Bonds which held it together are weakening. Promoting a sense of community as a counter-veiling force has become very important. The idea of social capital gains salience in this context and there is a need for social scientists to explore and identify ways in which values like trust, cooperation and reciprocity can be re-established. CFM provides an ideal context in which elements of social capital such as social norms trust and cooperation can be studied.

The Idea of Social Capital

Three types of capital - physical, financial and human - are mostly used in the context of enhancing individual and organizational productivity. There is a fourth type of capital - social capital that strengthens cooperation and social solidarity. Various authors have defined social capital in different ways. For example, Putnam sees social capital as "features of social organization such as networks, norms, and trust that facilitate coordination and cooperation for mutual benefit" (Putnam, 1995). Fukuyama defines it as the existence of a certain set of informal values or norms shared among members of a group that permit cooperation among them (Fukuyama, 1997). From the above definitions it can be said that certain essential elements of social capital are networks, norms, cooperation, coordination and collective action.

Like the conventional types of capital, social capital also requires investment. It can erode or deplete if not used or is misused (Throsby et al., 2001). It can be seen as a stock from which economic returns flow. It may not be possible to build this capital over a very short period of time, as trust and reciprocity take time to grow. Institutions also take time to evolve. But it is not necessary that social capital will always be historically endowed (Schneider et al., 1997). There are many agents that can help build or enhance social capital. The agency could be effective leadership, existence of traditional institutions, tradition of participation, homogeneity of population, knowledge of sustainable management practices, local NGOs, committed government officials etc. (D'Silva et al., 1993).

The idea of social capital gained currency in the nineties of the last decade, spurred largely by the works of James Coleman, Pierre Bourdieu, Robert Putnam, and Francis Fukuyama. Social capital was recognized and embraced by the World Bank which stated as follows: 'increasing evidence shows that cohesion is critical for societies to prosper economically and for development to be sustainable. Social capital is not just the sum of the institutions which underpin a society; it is the glue that holds them together' (World Bank, 2000). The origin of the concept of social capital can be traced back to the critique of utilitarian and individualistic theories of society. While utilitarians were of the view that individuals acted on their free will irrespective of society, Durkheim offered a contrarian view. He held that society has the power of coercion over individuals in the form of external social rules and obligations. According to him, individual action derives from society, thus placing the individual within the larger framework of social rules and customary restraints (Morrison, 2006). Sociologists like Bourdieu, Putnam, Coleman, Fukuyama, etc. who defined the term social capital in a more refined manner were in a way building on Durkheim's idea.

Different forms of Social Capital

Sociologists have seen social capital take various forms. Gitell and Vidal (1998) and Szreter and Woolcock (2004) differentiated three types of social capital: bonding, bridging and linking. Bonding social capital refers to the relationships amongst members of the network who are similar in some form (Putnam, 2000). In other words, bonding social capital describes the links between people with similar objectives and those who find themselves in similar situations, such as those in local communities. It refers to the capacity of one community to establish and maintain links with other communities. Linking capital describes the ability of groups or communities to engage with and relate to external agencies. Through this form of capital, communities can simultaneously influence the policies of such agencies and also draw on the latter's resources. Linking capital is the extent to which individuals build relationships with institutions and individuals who have relative power over them.

Study of rural communities gives an opportunity to understand different forms of social capital. Rural communities are known to form associations and institutions for different purposes, more often than not, with overlapping membership. For example, in Odisha, most of the villages have Self-Help Groups, Village Development Committees, School Management Committees, Health and Sanitation Committees etc. Many villages, especially on the periphery of forests, have formed Forest Protection and Management Committees. Some committees and associations are formed by the people out of their own volition. Those are self-initiated organisations based on felt needs of the communities. Some are formed following rules and guidelines of government. The composition of the Committees varies according to requirements of different schemes and programmes. Whether self-initiated or otherwise, all these committees and associations are likely to have some impact on social capital.

The importance of studying social capital as a dependent variable

A large number of studies have been undertaken on the instrumental role of social capital in achieving goals like sustainable development, conservation of natural resources, superior educational outcomes, effective functioning of democracy and so on. But it is possible that the processes through which these goals are achieved create social capital as well. If these processes are closely studied, we may get an insight into how social capital gets formed and reinforced. This idea has not received equal attention. In a world defined by increasing individualism and pursuit of self-interest, the need for strengthening social solidarity, trust and cooperation can hardly be over-emphasized. Building of social capital is important for peace and social harmony which are the pre-requisites of a stable social order. Therefore, social capital may be seen as a desirable outcome in itself and thus, a dependent variable.

Creation of social capital can be linked to all the goals mentioned above. In the present paper, it is intended to highlight the creation of social capital in the context of CFM. Much of existing literature on the subject shows that effective conservation of natural resources is facilitated if a community has a stock of social capital. But it is possible that social capital gets formed in the process of CFM and its stock increases.

Inter-relationship between CFM and social capital

Forests are one of the most important common-pool resources which have undergone precipitous decline in many countries with increasing biotic pressure and various processes like industrialization, urbanization and globalization. There is an urgent need to stop degradation of forests to prevent an environmental catastrophe and to mitigate the effects of climate change. It is therefore in the fitness of things that scholars and policy makers have long been engaged in studying various institutional mechanisms and regulatory framework which helps in effective management of forests.

Like other countries of the world, India also has grappled with the issue of forest conservation and protection of the livelihoods of forest-dependent communities. When the issue of forest conservation is discussed one cannot stop discussing the role of forest resources in supplementing the incomes of the rural people as well as their role in the agrarian economy. Both these perspectives have to be therefore kept in view when forest management issues are studied.

Different forest management frameworks can be seen on a spectrum, starting with total state control at one end and complete community ownership at the other. Total state control of forests presupposes responsibility of the state and its bureaucracy for management and protection of the natural resource to the complete exclusion of people's participation even to the extent of creating an adversarial relationship between forest managers and rural communities. Next in the scale comes Joint Forest management (JFM) which creates some space for people's participation howsoever inadequate it may be. In the JFM framework the management initiative comes from the forest bureaucracy with some grudging allowance given to a member of the local community to formally head the Committee for forest protection. The local forester being the Secretary of the Vana Surakshya Samiti (VSS), a local forest protection committee formed under the JFM framework convenes the meetings and takes a leading role in organizing the people primarily to protect degraded forests. Given the unequal patron-client relationship between the forest department personnel and rural communities, it can be safely said that people's participation in this framework is a mere formality. The third one is Community Forest Management (CFM) where the initiative starts from the local people and forest department is usually not involved in it. Community forest resource rights under the Forest Rights Act 2006 are at the other end of the spectrum. Under this law people decide which specific part of the forest area they would manage. Such decision is taken at the level of the Gram Sabha or Village Assembly. Then a village-level Forest Rights Committee (FRC) is formed. As the FRC has statutory backing, its decisions are no longer subject to any discretionary powers of the Forest Department. Since colonial times, state control of the forests had been an accepted policy of governments in India. Whenever any concession was given to the people for use of forest resources, it was limited and specific. However, despite burgeoning forest bureaucracy, forest degradation continued unabated.

The Government of India came up with the idea of the so-called JFM after learning the hard way that conservation of forests through the regulatory mechanism used exclusively by forest bureaucracies was not producing the desired outcomes and involving the local communities in the protection and management of forests would yield better results. The first Inspector General of Forests, Dietrich Brandis who directed forest management in different provinces of British India had emphasized the enormous gains which would accrue from a successful system of communal forests. He wrote 'not only will these forests yield a permanent supply of wood and fodder to the people without any material expense to the state, but, if well managed, they will contribute much towards the healthy development of municipal institutions and local self- government' (Guha, 1996). Thus, almost 150 years ago, he had visualized people's participation in forest management contributing to institution-building, and institution- building can be rightly seen as an indicator of social capital. This was not followed up and a discontinuity occurred between the vision of Brandis and that of the later policy makers. The way forests were managed even after independence did not provide much scope for local communities to play an active role in conserving forests. Now that there are certain signs of reversal of this trend, the time is opportune to study how social capital gets formed through the process of CFM.

CFM is based on the premise of people spontaneously taking the initiative of conserving and managing forest resources with which they have intimate familiarity. They understand implicitly that their livelihood depends on the forests to a considerable extent. Besides, they have their own perception regarding sustainable use of forest resources based on indigenous knowledge. Sometimes they form committees and associations with a view to ensuring that all members of the community have a clear understanding of their roles and responsibilities in forest protection and they do not work at cross purposes. Such committees and associations help in early resolution of conflicts. Unless conflicts which are bound to arise from time to time in the process of managing the forests are resolved promptly, they have the potential to wreck the gains achieved so far. Elements of mutual trust, reciprocity and solidarity are commonly found within village communities. It is not that only members of isolated village communities work collectively to guard and protect forests; sometimes, more than one village jointly manages a patch of forest with mutual cooperation. When any forest related dispute arises within or between villages, the conflict is usually resolved by the people themselves without intervention of any external agency. Thus, it can be said that it is not only bonding capital which is formed as an offshoot of CFM, but bridging capital is also formed because of collaboration of a particular village community with neighbouring communities. The village community in question has to reach out to the state apparatus and external agencies in order to get the latter's support for their initiative and access other benefits. If possible, they can leverage the technical and organisational support of a proactive NGO as well. All this is what can be construed as linking capital. In view of the above, it can be said that CFM provides an ideal context in which various forms of social capital- bonding, bridging and linking, and their related components can be studied.

Assessing Social Capital

In the present paper various forms of social capital - bonding, bridging and linking social capital in the context of CFM have been assessed. The components under bonding capital are existence of rules and their compliance, frequency of meetings of FPCs, participation of women in the FPCs, management of other CPRs in the village.

Relationship with neighboring villages and conflict resolution has been taken as components for bridging capital. For linking capital, three components selected are linkage with the GP and PS, linkage with forest department, interaction with NGOs. For ease of assessing social capital, each component was subdivided into three indicators. For example, existence of rules and their compliance was divided into three indicators. These are rules in existence; rules internalized/shared and spontaneity of compliance. This framework was adopted for ease of assessing different forms of social capital.* All the components and indicators have been mentioned in Table 1.

Table –1**Components of Various Forms of Social Capital and their Indicators**

Sl. No.	Components	Indicators
	Bonding Capital	
1	Rules and compliance their	a) Rules in existence b) Rules internalized/shared c) Compliance spontaneous
2	Frequency of meetings FPC	a) FPC meeting held regularly at any point of time, past and present. b) Meetings currently held regularly. c) Regular attendance in the meetings of the federation.
3.	Women's participation in CFM	a) Women are members of FPC. b) Women attend FPC meetings. c) Women attend federation meetings.
4.	Management of CPRs other	a) At least 1 CPR managed. b) More than 1 CPR managed. c) Prevent misuse / encroachment of CPRs.
	Bridging capital	
5.	Relationship	a) Joint protection of forest. b) Absence of conflict. c) Sharing of forest produce and other instances of give and take.
6.	Conflicts and their resolution	a) Conflict resolution mechanism in existence. b) No external help needed. c) Sustainable / durable resolution.
	Linking Capital	a)
7.	Relationship with GP	b) Community attending GP level meetings e.g. Gram Sabha. c) Development work under the aegis of GP. d) GP leaders' perception about the village.
8.	Interactions with Forest Department	a) Stable. b) Active cooperation from the villagers' side. c) active support of FD
9.	Interactions with NGOs	a) Promoting CFM b) Filing CFR claims c) Helping in networking with federations of FPCs

* Neela Mukherjee in her article 'Measuring Social Capital': Forest Protection Committees in West Bengal, published in EPW (July 20, 2002) used a similar method for assigning qualitative scores to different forest protection committees based on a PRA type exercise. Similarly, Deepshikha Mehera studied social capital in five case study villages based on research instruments developed by International Forestry Resources and Institutions (IFRI).

The three forms of social capital (bonding, bridging, linking) in the context of CFM were assessed keeping in view the various components selected after intensive focus-group discussions with the villagers, transect walk through the villages, cross-checking information through triangulation, with people of neighbouring villages, PRI representatives, functionaries

of relevant government departments and NGOs to make a comparison between four tribal and four non-tribal villages in Koraput and Nayagarh districts respectively.

Profile of the villages

All the four tribal villages where the research was undertaken are in Pottangi block of Koraput district. Jhankarguda and Sisaguda are under one Gram Panchayat (GP); Champakhenda and Upar Erasantaguda are under another GP. All these four villages are situated at substantial distance from the block and district headquarters. Jhankarguda has 46 households; Sisaguda has 43 households; Champakhenda has 59 households and Upar Erasantaguda has 42 households. All the four are typical tribal villages. Jhankarguda is inhabited by people belonging to Kandha tribe; Sisaguda by Parajas and Gadabas; Champakhenda predominantly by Gadaba tribe. In addition, there are eight Paraja households and four Scheduled Caste (SC) households. Upar Erasantaguda is inhabited entirely by people belonging to Kandha tribe.

The non-tribal villages are situated in Ranpur block of Nayagarh district. The villages are Kesiapalli, Kotapokhari, Gamharikhole and Randa. All the four villages are under four different GPs. Kesiapalli village has 67 households, 65 belonging to *Khandayat* caste and two families to *Mali* caste (non-Brahmin priests); Kotapokhari has forty-eight households, out of which 14 belong to *Khandayat* caste, and thirty belong to milkman caste. The remaining households belong to other castes such as washerman, *Mali*, *Mahanayak shudra*, oilman, *Kumbhara* (potter), *Keuta* (fisherman). Gamharikhole village has sixty-six households, sixty-four belonging to *Khandayat* caste and the remaining two, to SCs.

Randa has sixty households, forty families belonging to *Khandayat* caste, five to *Karana* caste and two to *Gauda*, one to *Maharana* and 12 to Scheduled Tribes (STs). All the four non-tribal villages are distant from block and district headquarters and can be considered as representative villages of Nayagarh district.

Comparison between Tribal and Non-Tribal Communities

One of the objectives of the study was to trace social capital formation in the context of CFM in tribal and non-tribal communities. Keeping this in view, four villages in the tribal district of Koraput and four villages in non-tribal district of Nayagarh were selected for the purpose of the study. Before giving a comparative account of the differences in the process of social capital formation in the context of CFM, it would be pertinent to look at some of the differences in various socio-cultural aspects of tribal and non-tribal communities.

Tribal communities are relatively more homogeneous and egalitarian, especially so when a particular village is inhabited by people of only one tribe. The world view of tribes is based on reverence for nature. The linkages between tribal communities and forests are shaped by community perception, needs, rites and rituals associated with their religion, belief systems, customs and traditions. Indigenous people hold a common belief that forest is as eternal as the earth and the universe. They cherish the value of living in the present rather than saving for fulfilling future needs. These beliefs make them restrain from over exploitation of forest resources (Kala, 2017). In non-tribal villages, more often than not, people belonging to different castes and classes live together, thus they are more heterogeneous. World-view of people in non-tribal villages is not so much centered on a reverence for nature and is rather based on utilitarian and rational principles.

CFM, in an organized manner started in Nayagarh earlier than that in Koraput, because of the pioneering work of a few local leaders and organizations. The CFM initiative in the non-tribal villages of Nayagarh district was noticed to be more organized and purposeful. The members of these villages were found to be determined to protect their forests to prove a point, as it were. More deliberate effort was found to have been made to create the awareness

for forest conservation in the non-tribal villages of Nayagarh compared to the tribal villages of Koraput, where the effort was relatively natural and spontaneous. Whereas the forest conservation initiative in the tribal communities was found to be relatively more livelihood-oriented, the same in the non-tribal villages of Nayagarh had greater underpinnings of rights and entitlements.

Now let us see the differences between tribal and non-tribal communities with regard to CFM and various forms of social capital.

Bonding

Considerable emphasis has been placed by scholars on self-created rules by the people to protect and manage forests and a shared understanding of these rules and their compliance. One rule that came prominently in villages of Nayagarh is the duty roster of families symbolically indicated by placement of a bamboo mast in front of a particular house. This is popularly known as *thengapalli* in the Nayagarh villages. This custom is not seen in the tribal villages of Koraput, though here also duties of forest protection are performed. But duties are not apportioned among the households in the same manner as in non-tribal villages of Nayagarh.

One indicator of the institutional robustness of the FPCs is the frequency and regularity with which the FPC meetings are held. In this regard, supporting documentary evidence was difficult to find both in tribal and non-tribal villages, but because of the pro-active nature of the block-level federations of FPCs in Nayagarh, at least some verification was possible. Block-level federations, for not being so pro-active in Koraput, it could be presumed that holding meetings regularly was a rarity in the tribal villages. At the same time, it was also noticed that, during the implementation of the state-sponsored watershed programme, formal meetings were held intermittently, but these meetings ceased to be held once the watershed programme was over.

Coming to women's participation in CFM, a subtle difference was found between tribal and non-tribal villages. In some of the non-tribal villages, women are relegated to the background when it comes to forest management and related decisions. And in other non-tribal villages, women were found to be in the forefront of forest protection and management related decisions. In contrast, such variations were not observed in the tribal villages. In the tribal communities, known for their gender equality, women were found to be more integrated into the day-to-day forest related activities such as gathering of fuel wood and other Non-Timber Forest Products (NTFPs). Sustainable forest use was an integral part of their life and livelihood.

In management of other CPRs, conscious efforts were noticed in some of the non-tribal villages. In tribal villages, such efforts were not visible. But, at the same time, when it comes to water bodies and streams, responsible management practices were noticed in the tribal areas, even more than in non-tribal villages.

Bridging capital

In both tribal and non-tribal villages, there are instances of two or more than two villages jointly protecting and managing one contiguous patch of forests. When it comes to conflict resolution, the tribal communities hardly need any external help, however for resolution of conflicts in non-tribal villages, the block and district-level federations played a role. Whenever the conflicts were resolved, in both the cases, the resolution was durable.

Linking capital

Relationship with the officials of the local self-government institutions, i.e., the GP has been taken as an important indicator of linking capital. As far as this indicator is concerned, whether the community attending the GP level meeting, or development works under the aegis of GP is concerned, similar situations are seen in tribal and non-tribal villages. The perception of GP leaders was also found to be positive in both cases. But when it came to relationship with the officials of the forest department, a difference was marked between tribal and non-tribal villages. People of Nayagarh villages wanted to demonstrate that communities could organize themselves to protect the forest areas without any support, incentive and cooperation from the state forest department. If necessary, they were prepared to take an adversarial position vis-à-vis the forest bureaucracy. On the other hand, in the tribal villages of Koraput, the relationship between the village communities and the forest department officials was found to be more cordial. In fact, over a period of time, field officers of the department have lent a helping hand to the communities of Koraput in undertaking CFM activities.

Block and district level federations of CFMs exist both in Koraput and Nayagarh. However, the block level federation of Nayagarh was found to be more proactive in comparison with that in Koraput. Block level federation of FPCs in Nayagarh not only monitors the working of the village level FPCs, but it also holds meetings with them at regular intervals. The federation holds separate meetings with all-women FPCs at regular intervals. It plays an active role in resolving disputes, especially inter-village disputes relating to CFM. The leaders of the federation work as a bridge between the local FPCs and the external agencies including government officials and NGOs. They have taken upon themselves an advocacy role to popularize CFM by highlighting its positive effects. This aspect finds resonance with one of Anirudh Krishna's research findings that high levels of social capital do not automatically translate into better outcomes within any of the three domains- social, economic and political, unless there are agents present in the village who are capable and effective (Krishna, 2000). In Koraput, though the federations of FPCs exist, they appear to be somewhat less proactive. No evidence of regular contact let alone continuous monitoring by the district and block level federation is noticed.

In both Koraput and Nayagarh, NGOs working on the issues of forest and other natural resources are found to be engaging themselves with communities. The leaders at the FPC and federation level were found to be in continuous touch with the NGOs and tapping on their knowledge resource. The NGOs were found to be acting as catalysts to strengthen and propagate CFM as a superior institutional model for forest conservation. This process is less visible in Koraput notwithstanding the fact that a national level NGO is actively collaborating with the local communities in the tribal district. However, the fact remains that, in both the areas, NGOs have provided knowledge inputs in claiming individual and community rights under the FRA.

The non-tribal communities of Nayagarh have used the rules framed for CFM as a clear and effective deterrent against outside interference in their specified forest blocks. In Koraput village, rules and norms have been used to prevent theft and trespass into forests, but occasionally, the fines which were imposed in certain cases on the offenders were later scaled down depending on the situation. Thus, they were found to be more conciliatory and accommodative while implementing the penalty system.

From an overall assessment of social capital in the eight study villages, it was found that the overall social capital of tribal villages on account of CFM was marginally lower compared to the non-tribal villages; the bonding capital was found to be more or less similar in extent

among the tribal and non-tribal villages; bridging capital was found to be slightly higher in the non-tribal villages. The linking capital was found to be higher in the tribal villages than in the non-tribal villages.

Conclusion

What emerges from the analysis of the nature and the nuances of CFM and different components of social capital in eight villages of Nayagarh and Koraput districts is that in each case CFM has made a substantial contribution to the strengthening of social capital. Not much of difference in the bonding capital between the tribal and the non-tribal villages was found. On the front of bridging capital and collective action, close similarities are observed between the tribal and non-tribal villages. However, what may appear to be somewhat counter-intuitive is the difference in linking capital between the two categories of villages. The tribal villages score higher in the aspect of linking capital because of their cordial relations with the forest bureaucracy. They also score somewhat better compared to non-tribal villages in the matter of mutual cooperation with respective GPs.

It is well known that natural forests have an important role to play to combat climate change. No number of plantations can substitute natural forests and yet large-scale denudation of forests cannot escape one's notice. CFM has an important role in reversing this process. It not only makes the communities the most important stakeholders in forest conservation and regeneration. It is a vehicle through which various forms of social capital can be created by promoting mutual trust, reciprocity, and voluntary rule-compliance, building solidarity with other village communities and forging links with external agencies. Since CFM creates bonding, bridging and linking social capital, the overall social capital creation would be maximum if all the three forms are at the highest possible level. Assuming that there is a trade-off between the three forms, an optimum combination of three forms of social capital is likely to produce improved outcomes.

The state government has an important role to play in strengthening CFM. The minimum that the state can do is to recognize the contribution of communities towards sustainable forest management. They can provide policy support for infusing a new confidence among the self-initiated forest-protection groups. Federating the FPCs at the block, district and the state levels require proactive engagement of NGOs and patronage of government. This will result in a win-win situation both for the village communities and the state.

In the end, the point that can be emphatically made is that CFM provides an opportunity to village communities to espouse a cause that has great contemporary significance and pursue it collectively. CFM, by definition, is a collective endeavor. If natural forests did not exist, or if it was not possible for degraded forests to regenerate, there would be no need for the communities to zealously protect them. Thus, social capital formation can be seen as a natural off-shoot of community forest management. This process needs to be carried forward. Whether it is forest management or management of other CPRs, the state will have to leave more space to village communities to protect and manage them through their own institutional mechanisms with the only rider that they become more and more inclusive in course of time.

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