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Rights, Responsibilities and Resources: Examining Community Forestry in South Asia

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Contents

Abstract

1. Introduction	1
2. Decentralization Policies and Implementation	1
3. From Devolution to Commons Governance	3
4. Community Forestry in South Asia	4
5. Understanding Impacts	5
5.1 Implications for Livelihoods	6
5.2 Rights, Rule and Participation	7
5.3 Have the Forests Gained?	9
6. Lessons and Conclusions	10
References	12

Abstract

This paper seeks to understand whether decentralized management of forests can reduce forest loss in developing countries. In South Asia, large-scale experiments in decentralization – Joint Forest Management in India and community forestry in Nepal, in particular - have changed the relationship between forests, the forest departments and rural households. However, have these institutional changes lead to a decline in forest degradation? Have they empowered households with stronger access rights and contributed to household well being? These are important questions to examine because rural households depend on forests to meet numerous subsistence needs. The emerging evidence suggests that community forest management may indeed be contributing to improved forest health. However, the impacts on household well-being are less carefully studied and seem to be far more varied. The paper suggests that clarity over rights, local monitoring and recognition of differences in intra-community needs are issues that require policy support if community forestry is to meet both livelihood and forest conservation expectations.

Key Words: Community forestry, India, Nepal, User groups, Decentralization

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1. Introduction

Of the 3.9 billion hectares of global forest estate, an estimated 11 per cent is owned by or reserved for community and indigenous groups. If only developing countries are considered, this number doubles to 22 per cent (White and Martin 2002). These figures partly reflect a profound shift in the way forests are being managed. Over the last two decades, community-based forest management has come into its own. It has graduated from being an experimental strategy to being more integrated into conventional efforts (Arnold 2001). This has happened through the strengthening of local right over forests, power-sharing agreements with the state, increased legal access, and decentralization within national agencies (World Resources Institute 2005).

Understanding the implications of institutional changes in forest management is important for several reasons. Forest loss represents a decline in natural capital assets, biodiversity and ecosystem services. In recent times, concerns over deforestation and forest degradation have multiplied because of the implications for climate change. Some 12 to 20 per cent of annual green house gas emissions into the atmosphere are attributable to land cover changes, including forest losses (Sunderlin *et al.* 2010; van der Werf *et al.* 2009). Identifying workable strategies for reversing this trend is critical. One important question to ask is whether decentralized forest management can help buck this trend of forest loss in developing countries?

In South Asia, large-scale experiments in decentralization – Joint Forest Management in India and community forestry in Nepal, in particular – have transformed the relationship between forests, the forest departments and rural households. The South Asia region has been growing at a rapid clip and many gains have been made in poverty reduction and social indicators such as health, access to water and sanitation and infant mortality. However, there have also been significant costs in the form of declining environmental quality. Understanding the drivers of forest resource loss and successful conservation strategies is particularly important because of the high dependence of the rural poor on forests (Mukhopadhyay and Shyamsundar forthcoming, World Bank 2008).

In this paper, we ask whether and in what way decentralization may be contributing to improved livelihoods and better resource management in South Asia. Can local institutions sustain forest conservation? What conditions underlie varied outcomes? What are some new challenges? We seek to address these issues in the context of policy interventions to devolve natural resource management to local communities globally and to identify synergies between poverty reduction goals and resource management (Larson and Soto 2008, World Bank 2008, Shackleton and Campbell 2001, Wily 2000, Khare *et al.* 2000). Understanding whether community forestry is working is also relevant given current interest in REDD+² as an instrument to mitigate climate change. There is likely to be a large flow of resources from the global north to the forested south and it is critical to ensure that these resources are effective and don't disrupt relatively new local institutions (Phelps *et al.* 2010).

In the following sections, we first discuss the nature of decentralization and practical challenges. Section 3 examines the characteristics of communities and forest resources that may enable more successful devolution. Section 4 provides a brief overview of forest management in India and Nepal. This is followed by a discussion of the implications of community forestry for livelihoods, community participation and forest health. Section 6 identifies the challenges ahead and draws conclusions.

² Reduced Emissions from Deforestation and Degradation of forests is a mechanism to reduce the release of carbon into the atmosphere from forests.

2. Decentralization Policies and Implementation

Globally, community forestry is part of an on-going trend towards decentralization in multiple sectors (Tacconi 2007, Larson and Soto 2008, Shyamsundar 2008). While many such efforts seek to reduce the role of the public sector, there are important differences among them. At one extreme is privatization, which is generally the least practiced policy change. At the other end of the spectrum is de-concentration, which is simply a form of administrative decentralization (Knox and Meinzen-Dick 2000; Larson and Soto 2008). In the resource sectors, decentralization to lower levels of government is seen, particularly in Latin America, where forest laws passed in the mid-nineteen nineties delegated authority to municipal governments (Andersson 2003). In Africa, traditional leaders have established themselves as important stakeholders in the natural resources sector and there is evidence of parallel local authority systems (Weeraratne 2005). In this paper, our focus is on devolution of resource rights, a process wherein state control over the use of natural resources is gradually and increasingly shared with local communities (Larson and Soto 2008). Such policy processes are generally accompanied by the creation or strengthening of a set of communitarian institutions.

In recent years, decentralization has found solid footing as a government strategy to shift power to those who are affected by the exercise of power (Agrawal and Ostrom 2001; World Bank 1997). It has also become a tool for achieving development goals in ways that respond to the needs of local communities and build social capital (World Bank, 2000/01; Shyamsundar 2008). The underlying argument promoting devolution as transfer of power, accompanied by 'downward accountability', is that it can ensure economic efficiency and sustainable resource use, and contribute to equity (Fisher 1999, Ribot 2002, 2003).

Local institutions have better knowledge of local needs, costs and resources. Thus, decentralization can incentivize local communities to own decisions, improve efficiency by internalizing local costs, and reduce transaction costs associated with managing resources (Ribot *et al.* 2006, Agrawal and Ribot 1999). Devolution is also seen as a tool to achieve political and economic equity. While political equity is about who gains influence in decision-making, economic equity is more concerned with who gets what benefits (Poteete 2004). Decentralization certainly attempts to redistribute both power and resources and can provide 'voice' to local stakeholders (Larson and Soto 2008).

The link to sustainability comes from local users being able to better prioritize resource extraction and monitor resource use. Communities have a strong stake in what happens to the forest assets on which they are dependent. The visible signals of degradation are more likely to be obvious to them rather than the distant forest department manager. They are also able to monitor resource use at lower transaction costs. New forest policies are generally overlaid over traditional systems of management. State management is less able to address traditional needs or customary rights (Behera and Engel 2006). Trees are also, often, treated as lucrative capital asset by corrupt and under-paid forest officials. Decentralization is, therefore, seen as a mechanism that can reduce illegal use of forests by locals and by official foresters.

Despite the theoretical virtues of decentralization, practical experience has been varied. Decentralization reforms can be flawed in design or become ineffective because of strong resistance from a variety of actors (Ribot 2002, Tacconi 2007, Ribot *et al.* 2006). A key problem has been an inability to truly devolve power to local levels (Ribot 2002, Larson and Soto 2008). Users may not be able to make "collective and constitutional-level choices related to rule design, management and enforcement" (Agrawal and Ostrom, 2001: 508). Thus, major decisions remain in the hands of central or state governments. Ribot *et al.* (2006), for instance, examined decentralized forestry in six countries and found that discretionary powers to locals and downwardly accountable representative authorities were lacking in most cases.

In implementation, decentralization policies seem to be misapplied in several ways (Fisher 2000): a) there is often devolution of responsibility without authority; b) devolution of authority to the wrong people; or c) socially naïve and standard organizational models are applied to complex local situations. The benefits from decentralization are eroded when it becomes more a means to control local people rather than to empower them with clear rights (Larson 2005, Sunder 2001). This happens when local communities are given the illusion of power but are expected to rubber stamp decisions that are made by forest and other officials. Local mobilization also fails if lip-service is given to participation and communities are generally un-aware of their rights and responsibilities (Ghate and Mehra

2008, Matta *et al.* 2005). Without full information, local decision-making is bound to be less effective. Another problem arises when there are multiple local institutions and it is unclear who should have rights over resources. In India, for instance, there has been significant debate on whether forest control should be vested in local forest protection committees or should be handed over to the Panchayats, the smallest elected political unit, especially in tribal areas.³ Also, a naïve application of decentralization without considering power hierarchies, such as the caste organized societies found in many parts of South Asia, can lead to elite capture and dilute the objectives of governance reforms (Iversen *et al.* 2006, Thoms 2008).

Can decentralization still be a solution to forest degradation? The theoretical arguments in favor of decentralization are sound. Also, centralized management has largely failed. Forest departments have been unable to control deforestation because of weak capacity to monitor resource use and internal corruption, amongst other reasons. Yet, many practical challenges remain. Since Forest Departments have been in charge of rule formation, implementation and sanctioning, they may not be very willing to give up control. Scholars such as Sunder (2001) argue that devolution, in fact, may be a way to exercise further control over local communities and increase revenues to the state. Differences between national and local objectives regarding resource use and management capacity may also discourage transfer of authority (Ribot 2003). Further, the romantic view of a 'symbiotic relationship' between forest and forest dwellers is disputed. Environmentalists and forest officials argue that local communities do not have the skills to technically manage forests. Given alternatives, communities may gladly move away from forests and the younger generation is impatient and unwilling to wait for trees to mature.

Many governments and donors have bought into the idea that devolution in resource management can conserve resources and improve the lives of local stakeholders. However, there is now a more nuanced understanding emerging about what decentralization can actually deliver. The arguments made against decentralization are not necessarily against the concept of sharing of authority and responsibility, but against the design of particular policies and the process of implementation. There are also questions raised regarding the role of exogenous factors that mediate the effects of decentralization and the attitudes of the implementers and those who are affected (Tacconi 2007). We examine these issues further in the context of South Asia.

3. From Devolution to Commons Governance

Devolutionary policies assume that communities are willing to collectively manage natural resources either because of their utilitarian and/or intrinsic benefits or because communities are promised a reward for taking on management tasks. There is a rich theoretical and empirical literature on the conditions underlying collective action to manage natural resources (Ostrom 1990, Baland and Platteau 1996, Agrawal 2001, Dasgupta 2008). Many of these conditions contribute to the success (or failure) of devolutionary policies. Even if governments are willing to decentralize, success can depend on the resource under consideration, the community dependent on the resource and the type of institutions created to govern the use of the resource.

Theory suggests that what is critical for successful community management is the salience of the resource to locals, which affects the net returns to cooperation. With forests in South Asia, practically every rural household has a stake in ensuring sustainable use since firewood and non-timber forest products serve energy, food, and medicinal needs and can be an important source of cash income. In Nepal, for instance, over 80 per cent of households are dependent on fuelwood for cooking (Nepal *et al.* 2010). However, demand or use alone is not sufficient. If there is no evidence of scarcity, communities may have little incentive to undertake collective management.

Group size matters for successful cooperative action. Beginning with Olson (1965), scholars have argued that small groups are ideal because they enable members to interact with each other and prevent people from defaulting on cooperative agreements. However, recent research suggests that middle level groups do particularly well with forest management (Agrawal and Goyal 2001, Nagendra 2007). This is because mid-sized groups have the resources to participate in rule formation, monitoring and enforcement while much larger groups have a larger area and more

³ Other contestants for local managers of forests include the Biodiversity Management Committees formed under Biological Diversity Act 2002, or to the communities under the Forest Rights Act, 2006.

people to exclude. Another issue to consider is that communities are rarely homogenous entities that harmoniously agree to conserve. Differences in initial endowments, location, and power relations within communities can lead to unequal costs from institutional change and affect long term outcomes. This story fits with Dasgupta's (2008) argument that a long-term cooperative equilibrium can emerge with some people being worse off than if they had not cooperated in the first place.

Tenure security and certainty over rights can increase the returns to cooperative management (Dasgupta 2008). As previously discussed, lack of secure rights over resources is a concern since governments seem reluctant to hand over complete control to communities. A practical sub-problem is boundary identification. Communal boundaries are often ambiguous and boundary identification is a first step towards strengthening property rights and reducing conflicts.

However, tenure alone is not sufficient and needs to be matched with careful monitoring of resource use (Ostrom and Nagendra 2007). Monitoring covers different aspects of management such as rule compliance, responses to internal infractions and guarding the forests from outsiders. Three large-N meta-analyses have underscored the importance of monitoring for institutional effectiveness (Wade 1988, Ostrom 1990, Baland and Platteau 1996). If monitoring and enforcement is not easy and very expensive, institutions are hard to sustain (Wade 1988, Ostrom 1990, Ghate and Nagendra 2005). It is also now accepted that when users of common-pool resources organize themselves to devise and enforce some of their own rules, they tend to manage local resources more efficiently (Wade 1994, Baland and Platteau 1996, Lam 1998, Gibson *et al.* 2005).

Finally, there are aspects of the resource itself that matter for successful devolution. Trees like all other consumptive resources are divisible and can be individually extracted. This has two implications: sub-units of the resource can be managed separately depending on need and circumstance, but this can also increase the costs of monitoring the use of the resource. A related key characteristic is the scale at which the resource is used. Forests, in particular, may need to be managed for the multiple local, national and international ecosystem services they provide. This makes the task of local management complicated and institutional change can have distributional implications.

4. Community Forestry in South Asia

Forest policy in India has changed significantly over the past 100 years or so. At the end of the 19th century, 80 per cent of India's lands were under 'common' management (Singh 1986). But land rights were eased out of the hands of the communities first by the British and later by the Indian government.

Given the enormous demand for building railways, the British rulers of India saw forests mainly as a source of commerce (Agarwal 1999, Guha 1983). The Forest Act of 1865 and Forest Policy of 1894 de-recognized communal property and restrictions were placed on forest dwellers' collection of forest products (Rangarajan, 1996; Guha 1983). Where concessions were made, communities were obliged to help the Forest Department in return (Joshi 1983). Conservation programs resulted in progressive encroachment of the rights enjoyed by tribals for centuries over fuelwood, timber, non-timber forest products and hunting.

The reduction in forest rights had its repercussions, and there were wide spread protests in the 19th and 20th century (Agarwal 1999, Ballabh *et al.* 2002, Banage 1964, Satya 2004). This led the British to re-think their strategy for forest management. One result of these protests was the eventual (post-1931) creation of Van Panchayats (forest committees) in the Himalayan foothills. These committees gave significant autonomy to forest dwellers over certain patches of forests. Elected executive committee members could craft rules over village forest use, monitor and sanction mis-use and sell forest products under varied conditions (Agarwal 1999, Baland *et al.* 2010). The Van Panchayats represent the best-preserved examples of long-term experimentation in decentralized forest management, which we discuss later in the paper.

The trend towards national control over forests continued under the hands of independent India, with few major changes until the 1980s.⁴ However, in 1988, a National Forest Policy brought about a paradigm shift. The policy

⁴ National change came to Indian forests first in the form of social forestry in the 1980s. This program was designed to increase fuel wood and fodder for communities. In reality, it increased the supply of industrial wood and ignored the traditional role of community decision making (Shiva *et al.* 1983).

sought to involve “tribal people closely in the protection, regeneration and development of forests as well as provide employment to people living in and around forests” (MOEF 1988) Although a major emphasis remained on the ecological role of forests, community requirements of fuel-wood, fodder, minor forest produce and construction timber were recognized. A new form of governance, referred to as Joint Forest Management (JFM), developed from this policy (MOEF 1990).

JFM builds village-level institutions, more popularly named as Forest Protection Committees (FPCs), to engage communities in forest management. These committees are expected to partner with the forest department and make forest management plans, create rules related to use and monitor and sanction illegal activities (MOEF 2000). Typically, the FPC is made up of a general body that includes all villagers and an executive committee with 9-15 members (Agarwal 1991, TERI Accessed 2011). In many cases, FPCs have access to government funds to undertake development investments. The FPCs are only in some cases legal organizations, but are almost always registered with the local forest department.

JFM spread rapidly in India with support from multiple international donors. It varies from state to state and has also evolved over the years (Behera and Engel 2006, TERI Accessed 2011). As of 2001, 62,890 committees were set up in 27 states of India covering an area of 14 million hectares of forests (MOEF website 2011). Underlying and in addition to these relatively new government sponsored communitarian institutions are hundreds of endogenous institutions throughout India that manage different patches of forests (Agarwal 2001, Mishra 2008, Murali *et al.* 2006).

There have been other twists and turns in the process of decentralization of forest management in India. In 1996 the Panchayat Extension to Scheduled Areas Act (PESA) of 1996 gave rights, especially over minor forest products, to the gram sabha (village assemblies) in scheduled areas.⁵ The 2006 controversial ‘Scheduled Tribes and other Traditional Forest Dwellers or Recognition of Forest Rights Act (FRA) is an attempt to further empower tribal communities. This act gives locals full control over forests, i.e. they can manage, plan and harvest from forest lands. It also allows for the continued use of ‘converted or encroached’ forest land in alternate uses. Simultaneously, India has seen efforts to increase central control of forests through legislation such as the Forest Conservation Act, 1980 (amended in 1988). Thus, this large democracy has seen a see-saw of victories – some in favor of ‘pro-forests’ and others leaning toward ‘pro-community’ groups. Nonetheless, the introduction of JFM, PESA and FRA suggests a trend towards decentralization.

Nepal entered the decentralization era under similar conditions. However, while recent forest policies in India emerged almost from a tussle between pro-forest and pro-community groups, decentralization in Nepal was largely a reaction to high rates of deforestation (Adhikari *et al.*, 2003). In Nepal, forests were nationalized in 1957. This action is seen as a significant trigger for high rates of deforestation that followed (Kanel 2008, Tachibana *et al.* 2001). Several other laws further reduced the rights of communities over forests: the Forest Act of 1961, which focused on forest administration, strengthened the Forest Department’s ownership over forest lands,⁶ and the 1967 Forest Preservation Act clarified penalties and offences to be imposed on illegal activities in national forests. Traditionally, despite forest ownership resting with the government, customary laws limited over-exploiting of forests. However, with increases in population, inconsistent forest policies and subsequent nationalization of forests, traditional communitarian institutions, which used to guide all matters relating to the economy and society, gradually lost creditability (Adhikari 2006). The poorly staffed forest department was unable to implement its national policies, laws were largely ignored, and deforestation increased in the sixties and seventies.

In 1974, the high levels of deforestation raised alarm bells at the Ninth Forestry Conference held in Kathmandu. A fresh discussion ensued on the role of local communities, resulting in a pro-community national forestry plan that assigned responsibilities and rights over forests to local Panchayats.⁷ However, only after preparing the 25 year Forestry Master Plan in 1986-88, was a final decision made to hand over forests to traditional users (Gautam 2004, Kanel 2008). Community Forestry User Groups (CFUGs) were set up for managing, protecting and sustainably using

⁵ Scheduled Areas have a preponderance of tribal populations. PESA gives village elected bodies rights over all except certain commercial NTFPs.

⁶ Forests were divided into different categories and authority and responsibilities of the department were defined (Gautam *et al.*, 2004).

⁷ Following this, forests were re-categorized in 1978 into Panchayat Forests, Panchayat Protected Forests, Private Forests, Leased Forests, Religious Forests and Government Forests.

the forests. The Forest Act of 1993 and forest regulations in 1995 re-categorized forests into community, leasehold, government, religious and protected forests. CFUGs were thus institutionalized as legal self-governing entities with utilization and management rights over village forests (Iversen *et al.* 2006, Kanel, 2008). This was a turning point in the history of forest policy in Nepal.

Currently, there are some 14,572 CFUGs scattered throughout Nepal covering a total area of 1.2 million hectares (25 per cent) of forest land (Kanel 2008, DOF 2010). There are some 163,567 elected members (41,933 women) who make day-to-day decisions on forests (DOF 2010). The CFUGs in Nepal are not very different from the FPCs in India in terms of their organization structure and functions. There are some key differences in rights, which we discuss later.

In the rest of the paper, we draw from examples of Joint Forest Management and Van Panchayats in India and community forestry user groups in Nepal to discuss the relative merits of decentralized forest management.

5. Understanding Impacts

Measuring the impacts of forest decentralization experiments is fraught with difficulties. There are few ‘before and after’ studies that carefully examine outcomes. Isolating on-going biophysical changes and the effects of overlapping policies and their implementation is also complicated (Banana *et al.* 2007, Ribot 2002, Larson and Soto 2008). Outcomes can vary based on different conditions such as forest location and productivity, markets, policy implementation, diversity of stakeholders and so on, making generalizations difficult. Our observations on impacts in South Asia should be treated as a reflection on different possible outcomes rather than as over-arching results.

5.1 Implications for Livelihoods

Benefits from community forestry can be classified into private and public benefits and short term and long-term benefits. Private benefits accrue to rural households as a result of legalization of resource access, clarity over rules, creation of parallel employment opportunities and any increase in harvests because of improved forest management. Many of these benefits emerge in the short and medium term. Long term benefits emerge from improvements in eco-system services and accrue to local and global beneficiaries. Community forestry is also often associated with the creation of local public goods. This generally occurs where some forest related revenues are invested in local development activities.

No reform in forest governance is cost-free. Arguably, the most important costs are the opportunity costs to local communities as they often have to give up some current forest use in order to practice sustainable management. Other costs that can affect the process of reform implementation are the transaction costs to local communities associated with the burden of managing forests. There are also costs borne by the government and other stakeholders in implementing changes. Any reform in governance of natural capital such as forests will indisputably shift the distribution of benefits and costs.

Understanding that reforms in forest governance are difficult to undertake without creating some incentives at the local level, the governments of India and Nepal have tried multiple strategies to enthruse communities about forest governance. Some states in India, particularly those with external aid, used ‘entry-point’ activities as an incentive. Many states also require FPCs to set up village development funds that accumulate resources for local investments. In Nepal, ‘forestry funds’ are a core aspect of community forestry. The income into these funds comes from timber sales, NGOs, and through penalties and fees charged to local users. Pokharel (2008), for instance, found that CFUGs earned an average income of 63000 NRS (a little less than USD 1000) per year. While this may seem a small sum, it actually increases local development funds by some 25 per cent. Fund resources are used for local construction, schooling, health services, micro-credit etc. (Pokharel *et al.* 2004, Pokharel 2008).

A pertinent concern is whether community benefits (such as schools or community halls) create the right incentives for sustainable resource use. Infrastructural benefits are rarely directly tied to prudent use of resources. They equally benefit households who follow community rules as well as households that defect. Community forestry

funds that make sensible investments over a long period of time are sensible. Fund infusion at the beginning of a reform program (as has happened in India) may lead to initial community buy-in, which is important, but is unlikely to have long term effects on incentives. A review by Matta and Kerr (2004) of some 278 forest communities suggests that in most places the forest committees created under JFM have not lasted long. FPCs may become dysfunctional either after the initial enthusiasm dies down or after the incentive money is exhausted (Kumar 2002, Matta and Kerr 2004, Ghate and Nagendra 2005).

Household benefits are a more important incentive mechanism for motivating successful natural resource management. These accrue from forest management related jobs, increased control over timber and non-timber resources and revenue sharing with the government. Employment in forest-related enterprises is another common source of revenue. While there are few before and after studies that can be accurately used to assess the income impacts of community forestry, there certainly are examples of successful economic impacts.

- In Beharonguda in Andhra Pradesh, India, income from forest-related employment schemes (coppicing, singling etc.) accounted for nearly 43 per cent of household income in 1998 (D'Silva and Nagnath 1999). Other studies from Orissa and Uttar Pradesh have also documented increases in household employment and income related to implementing forest micro plans (Shrivastav *et al.* 2004, Sahu 2008).
- Increases in biomass production, i.e. fuelwood and fodder, is a vital short term return from forest protection under JFM (Murli *et al.* 2006, Patel *et al.* 2006, Shylendra 2002). Reduction in distance traveled and time spent for fuel wood and fodder collection is a linked short-term benefit (Srivastava *et al.* 2004).
- Non-timber forest products are very important source of household income (Ghate *et al.* 2009, Khatri-Chhetri 2008, Bawa *et al.* 2007, Sahu 2008, Adhikari 2005). Dutta *et al.* (2004) estimate, for example, that the average household (in some districts of Southern Bengal) earns INR10000 per year from NTFPs in community forests. Similarly, in Nepal's mid-hills, Adhikari (2005) estimates that 14 to 22 per cent of household income comes from community forests, mainly from the use of fuelwood, fodder and leaf-litter.
- To create long-term incentives, most JFM states provide villagers between 10-100 per cent of the net income from timber on 'final felling' of mature trees. In Nepal, CFUGs in the mid-hills obtain all the timber benefits from their forests. In general, a minimum of 5-10 years of protection of the forests is required before timber benefits are reaped. These benefits can be significant, as in the case of West Bengal, where by 1998 poles worth Rs. 40 million had been harvested and 25 per cent of the net proceeds shared with the members FPCs (Khare *et al.* 2000).

While NTFPs gathered from community forests clearly contribute to household well-being, several puzzles and practical dilemmas remain. Does institutional change actually result in an increase in income, for instance? Khatri-Chhetri (2008) attempts to answer this question by looking at how community forest use may differ depending on whether there is a formal institution (CFUG) in place or an informal endogenous institution. He shows that the contribution of forest products to household income is far lower in 'formally' managed community forestry relative to the case where there are informal and traditional rules only because of certain restrictions imposed. In India, another important consideration is that the state does not give communities rights over major commercial NTFPs. Lucrative products such as Sal seeds and Tendu leaves are still controlled by the forest department and private contractors. Also there are often restrictions on who communities can sell their products to, which can lower returns (Sarker 2009, Behera and Engel 2006).

How big an incentive are the timber benefits that accrue to households? These benefits can actually be lower than anticipated. First, because of the long time period between timber harvests, the returns may be small. Dutta *et al.* (2004) look at 58 FPCs in West Bengal and find that the returns, where timber was actually felled, was about INR 14 (or approximately 30 cents) per person per year. Timber payments by the state are also net of costs. Villagers have little understanding of what costs are actually incurred (Behera and Engel 2006). Several costs accruing to the forest department are included and any in-efficiencies may increase these costs (Sarker 2009).⁸ There are also distributional issues related to internal use of timber resources. In Nepal, CFUGs sell timber at a less-than-market rate to local users. Since the poor mostly do not buy timber for building houses, large timber subsidies accrue mainly to wealthier households (Pokharel 2008, Iversen *et al.* 2006).

⁸ Costs are based on forest department averages rather than local costs and can include staff benefits, office maintenance costs etc in addition to harvesting costs.

The poverty impacts of community forestry are as much a result of the benefit stream that occurs as of the costs that are incurred. The most important costs are opportunity costs stemming from loss of access to land and forest products. In Nepal, poorer households, who are more dependent on forest products than the relatively better-off, are more restricted by access and conservation rules imposed by CFUGs (Khatri-Chhatri 2008, Adhikari 2005). This is often because of deeply entrenched inequities in the social structure (Thoms 2008). Similar results are discussed by Kumar (2002) who discusses how JFM closure of forests for protection resulted in a decrease in net benefits from NTFPs to poor farmers. Sal (*Shorea robusta*), the dominant species in Jharkhand, is a gregarious species and a strong coppicer. When protected, it inhibits the growth of other species and quickly forms an almost pure patch in the area. The preference for preserving Sal, at the cost of other NTFP species, reflected choices made by large farmers in the FPC. The effect on the landless and marginal farmers was pronounced – they suffered a loss of up to 45-50 per cent of income from the collection and sale of NTFPs, compared to a mere 6 per cent decrease for large farmers.

Another cost associated with community-based activities that should not be ignored is transaction costs resulting from participation in meetings, monitoring, providing labor for maintenance of infrastructure, and membership fees. Adhikari (2006) estimates that transaction costs can be as high as 26 per cent of resource appropriation costs for the poorest households in Nepal. Monitoring costs, in particular, can be significant (Adhikari 2006, Ray and Bhattacharya 2010). Community management can also increase production costs if forests protection contributes to wildlife related crop or livestock damages.

5.2 Rights, Rules and Participation

Rights to manage natural resources can be categorized into rights of access, withdrawal, management, exclusion, and alienation of natural assets (Agrawal and Ostrom 2001). Communities in Nepal have access, withdrawal, management and exclusion rights over village forests. In India, communities have fewer management rights. Neither country allows for alienation rights (Nagendra and Gokhale 2008).⁹

Forest rights under JFM in India are less secure than Nepal. CFUG rights are based on the Forest Act of 1993 and communities in Nepal can and have sued the government for eroding their rights (Kanel 2008). Available comparative analyses, such as Ghate and Ghate (forthcoming), who compare 6 community forestry groups in India and Nepal, indicates the CFUGs in Nepal have significantly more ‘autonomy’ than their Indian counterparts in Maharashtra. While such results cannot be generalized, community rights in India are based on a government order: JFM is essentially a government program that varies dramatically across different states. In general, FPCs are not legal bodies unless they are registered under the Societies Act or Co-operatives Act (Ravindranath *et al.*, 2000).

There are also some key differences in the kind of rights communities have in the two countries. In Nepal, except for a 15 per cent tax on two timber species in the southern Terai region, all timber and non-timber benefits from village forest extraction accrue to communities as long as pre-agreed rules of extraction are followed (Kanel 2008). In India, people’s access under JFM is mainly to non-timber forest produce, small timber, firewood for bonafide domestic use and indirect benefits, which are arguably no different from the traditional *nistar* rightsⁱ enjoyed prior to JFM (Kaushal and Kala 2004, Upadhyaya 2003). In certain cases, when JFM replaces an existing, well run community forestry institution, levels of participation and outcomes can actually reduce (Nayak and Berkes 2008). Timber benefits are shared with the state, but the Forest Department exercises control over harvests and can be reluctant to share these rights (Balooni *et al.* 2010, Behera and Engel 2006). Further, the right to sanction has only been given very reluctantly to communities in India – only a third of the states, for which information was available, allowed communities the right to punish violators of rules by charging a fine (TERI 2004 cited in Behera and Engel (2006)).

Communities have some management rights in both Nepal and India in that they are expected to develop micro plans for local forests under the approval of the forest department. Management rights may be stronger in Nepal because the micro plan developed for forest management is pre-agreed. However, technical plans and their implementation is often delayed because of lack of knowledge among communities and foresters (Thoms 2008). In India, such problems are exacerbated by the huge variation in state policies. In many states, the Forest Department remains

⁹ The 2006 FRA in India allows some communities to retain land converted from forests in their new uses.

involved in rule making (e.g. power to disband FPCs or nominate NGO members) as well as day to day management related to micro plans, disposal of commercial forest produce, timber harvests etc. depending on the area and the state.¹⁰ Clearly infractions to JFM agreements between the state and communities take place. However, while JFM guidelines specify penalties for community violations, there are no rules regarding forest official violations (Behera and Engel 2006). Thus, there is concern expressed that community forestry in India is a covert attempt by the state to expand its authority over forests and communities remain un-equal partners (Ballabh *et al.* 2002).

Local elite generally play a very important role in communitarian institutions. This role can be positive in that they can organize communities and stand up to other powerful stakeholders such as the Forest Department (Balooni *et al.* 2010). Elite capture, however, can also result in unfair decisions that hurt poor and other marginalized groups (Thoms 2008, Kumar, 2002, Agarwal 2001, Sarin 1995). Inequitable decision-making can be particularly pronounced in high-value forests (Iversen *et al.* 2006). Much has also been written about discrimination against women (Agarwal 2001, Sarin 1995). Since women are often responsible for collecting fuelwood and non-timber forest products, such discrimination can impact the effectiveness of JFM institutions. Several recent studies indicate that where women are in control of forest rules, outcomes in terms of forest health and regeneration have improved (Pandolfelli *et al.* 2007, Agrawal and Chatre 2006, Agarwal 2010). Examining 135 forest institutions across India and Nepal, Agarwal (2009), in fact, shows that forests show significant improvements where women are well represented on executive committees of forestry institutions. In Nepal, in particular, forests under all women management have better forest regeneration and canopy growth relative to other groups, despite starting out with smaller and more degraded forests. Recognizing the presence of discrimination against women, the Indian government issued guidelines in 2000 allocating a third of all seats in community forestry executive committees to women. However, little general awareness or action has actually emerged since the guidelines were issued (Agarwal 2010: 87).

CFUG rules in Nepal allow for easy collection of intermediate goods such as leaf litter and fodder that contribute to production from land or cattle (Adhikari 2005). The poorest households, which have neither of these assets, gain little since collection is allowed only for self-consumption and not sale. How the poor fare depends on what kinds of rules are created and who participates in rule creation (Thoms 2008). Examining poor versus rich participation in decision making across eight CFUGs, Adikhari and Lovett (2006: Table 2) document that richer households participate much more in community forest management relative to the poor. The largest differences in participation appear in making decisions regarding harvesting rules (51 per cent of rich households and 20 per cent of the poor) and community funds' investment (87 per cent of the rich households versus 17 per cent of the poor). On the other hand, an equal per centage of rich and poor households participate in forest protection activities.

Despite various shortcomings, where community forestry works well, it can change the relationship between the state and communities. Forest committees in several instances have worked not merely as the 'sounding board for schemes that the department would wish to undertake in villages', but have successfully used the forum, both formally and informally, to secure forest usufruct (Tiwary 2005). Shylendra (2002) discusses how the state in Gujarat was able to incorporate and address various issues concerning livelihood security by undertaking regeneration activities and providing local communities wage employment and a share in timber after pruning. In Nepal, Pokharel *et al.* (2004) argue that community forestry contributes to growth in social capital (by increasing participation of women and weaker castes in decision-making) and human capital (through training). Some of these changes are a product of strategies that try to empower both communities and government officials to work together to meet common goals. Exogenous non-government organizations have often played an important role in supporting the process of institutional change and building capacity in India and Nepal (Varalakshmi and Kaul 1999, Ghate 2008, Kanel 2008).

5.3 Have the Forests Gained?

The most recent survey undertaken by the Forest Survey of India suggests that forests have marginally increased in India (by 0.18 mill ha or 0.23 per cent) during the period 2007-2009 (FSI 2009). The decadal increase in forests is estimated to be 3.13 million ha (4.75 per cent). The largest increase in forest cover is in dense canopy forests and medium density forests have continued to decrease. This maybe because India's protected area policies are

¹⁰ The Forest department also has the power to disband CFUGs in Nepal under certain circumstances (Kanel 2008).

working well and because of joint forest management efforts. Afforestation efforts by the Indian government have also steadily contributed to the growth in forests (FSI 2009).

In Nepal, there is much less information about forest stock and change in the last decades. The last National Forest Inventory was carried out in the early nineties in Nepal and there hasn't been an update since then. According to that inventory, forest and shrub together cover about 5.83 million hectares or 39.6 per cent of the total land area of the country. During 1978/79 and 1994, forest area decreased at a rate of 1.7 per cent per annum (FAO 2009). There is, however, evidence from smaller studies that forest cover has been improving in various parts of Nepal in the last several years. Studies from 20 Terai districts in Southern Nepal show that forest cover changed at an annual rate of 0.06 per cent during the period of 1990/91 to 2000/2001 (FAO 2009).

Does institutional change in the form of decentralized forest management contribute to improved forest cover? The understanding in this regard is generally positive with numerous case studies that point to the positive impact of community forestry on forest health (Nagendra (2007, 2010), Baland *et al.* (2010), Kanel (2008), Somanathan *et al.* (2007), Edmonds, 2002, Tachibana *et al.* 2001).

Evidence of the effect of Nepal's CFUGs on forest use and forest cover began emerging in the 1990s. In a comparative study of 74 forests in Nepal, Tachibana *et al.* (2001) found that FUGs contribute to forest regeneration and also result in a decline in fuelwood collection. Where there was no user group, no regulations are imposed on the use of forests; while there was a steady increase in regulations when forests were under informal and formal user groups. Similarly, Edmonds (2002), using careful econometric analyses on household data from Arun valley in Nepal, showed that the FUGs contributed to a 11 per cent decrease in fuelwood extraction from forests.

More recently, Nagendra (2007), examining deforestation in 55 forest patches, suggests that there is evidence of reforestation and protection in Nepal. She looks at the role of forest tenure by investigating three categories of forests – state management forests, community managed forests and leasehold forests (handed over to poor households). Her analyses suggest that tenure, in the form of community forestry and leasehold forestry, and local monitoring are significant drivers of forest re-growth. Nagendra (2010) also documents multiple examples of stable forests or reforestation in Nepal and India by comparing remote sensing data between 1990 and 2000. She is able to show that both protected areas and community forestry user groups are able to stem deforestation and degradation under certain circumstances.

Two recent studies in the Indian Himalayas have carefully addressed the issue of institutional change and forest conservation. Baland *et al.* (2010) use physical measurements taken from 399 forests patches (83 villages) in Uttaranchal (now Uttarakhand) and examine several indicators of forest health. Using a large random sample, they control for different factors that may affect forest use and differing uses of neighboring forests to isolate the impact of community management (Van Panchayats) on forests. They find that lopping is 20-30 per cent lower in Van Panchayat forests relative to state protected and open-access forests. However, other measures of forest quality do not improve. Thus, the authors conclude that Van Panchayats have been successful in regulating firewood and fodder extraction by locals and but not tree-cutting, timber extraction, forest grazing or encroachment.

Somanathan *et al.* (2009) use satellite data to examine crown cover in forest patches under Van Panchayats and state forests in Uttarakhand. They argue that Van Panchayat forests were originally (at hand-over after 1930) much more degraded than state forests. After controlling for confounding factors, they find that Van Panchayat forests are now no more degraded than the state forests, suggesting that communities are able to manage forests at least as well as the state forest department. Somanathan *et al.* (2009) go on to show that it is much more cost-effective for Van Panchayats to manage forests.

Because of the care taken to check for robustness and control for un-observed heterogeneity, the results from the Himalayan Van Panchayat studies offer a degree of confidence about the long term positive impacts of community management. There is certainly deforestation and degradation in Van Panchayat forests, communities have fewer rights relative to Nepal's CFUGs, and these rights are not that much different from those conferred through JFM. Yet, perhaps because these rules have been localized over several decades, Van Panchayat forests have been better managed than state forests. The importance of time and internalization of rules is reiterated by Baland *et al.* (2010), who find that the differences in lopping between Van Panchayat and state forests are higher the longer such forests

have been under the Panchayat system. Murali *et al.* (2006) reinforce this result in study that examined 25 forest villages across India. They find that the length of time over which a forest is protected is significantly correlated with biodiversity and regeneration. However, since Murali *et al.* (2006) do not control for confounding factors, it is hard to know if it is length of protection or rule creation that leads to improved forest health. Arguably, both time and internalization of rules are important for decentralization to result in healthy forests.

6. Lessons and Conclusions

Community-based natural resource management is not a panacea for managing forests in developing countries. It is only one among many solutions that work for forests and people. It is also not a homogenous solution. Rather, community forestry comes in multiple forms, some of which work better than others.

Ribot (2002) suggests that successful decentralization depends on a) how accountable local institutions are to communities; b) whether these institutions have adequate discretionary power; and c) whether the transfer of this power is secure. These requirements are better met in Nepal than India. FPCs have spread rapidly across India, creating institutions without a strong foundation within communities. Thus, devolution seems to be characterized by a 'user-centered' approach (versus a power-centered approach), which recognizes communities as forest users and secures their cooperation by granting access to certain products or a share in forest-derived benefits but without giving them full authority (Wily 2002). In Nepal, institutions are more accountable locally. They have more secure rights over their forests and are able to use funds raised from forest related activities with less interference from the state. There are a variety of rights, responsibilities and benefits that ensue under community forestry. Which of these are critical and what are some insights on conditions that seem to contribute to success?

- Community forestry has to be incentive-compatible at the household level. Forestry reforms have rightly focused on creating community user groups, establishing common rules and providing public infrastructure. These mechanisms will be successful only if they offer both short-term and long-term benefits to households. Fuelwood and fodder meet daily subsistence needs and NTFPS are a source of cash as well as food. Thus, ensuring their sustainable extraction - through better forest and plantation management, alternate employment, energy saving technologies and rules on forest entry, lopping, green stem collection etc. - is a top priority. While timber harvests lead to potentially large returns, these take time and there are many complications in relying on timber harvests alone. A longer term priority would be to clarify and secure the rules for timber harvest.
- Creating local institutions alone is not enough – these institutions need to be built up. They need to be equipped with resources, training and rights that make them downwardly accountable. Leadership needs to be provided where it is missing or strengthened where it is present. Government, NGO and donor support will continue to be important in providing the required technical and monetary support.
- Clarity over rights is critical. Communities in many parts of South Asia have the responsibility to protect forests, but not the rights to sanction encroachers or to use the revenues earned from forests; they are also insecure over their rights of access to forests. In addition, inter-community conflicts are frequent because of new rules or changed boundaries. In such cases FPCs need to include members of all the dependent communities. This is an issue that needs to be addressed at the policy level since the state has to be able to enforce contracts.
- Effective monitoring is vital to long term forest management. Communities may need to be trained, so they are clear on what they are monitoring and are able to select indicators to evaluate changes in ecological conditions. They also need to be willing to use sanctions for rule breakers. When sanctions are strictly enforced, they prevent free-riding and instill a sense of trust, which motivates more active participation (Ghate and Nagendra 2005).
- The forest reform implementing agency has an important role to play because of the support it provides. Many times, communities located far from field offices are neglected, even though they are often the most dependent on forests. In other cases, forest reform becomes 'personalized' and is reliant on the conviction of a single implementing officer. Thus, more needs to be done to institutionalize community forestry within traditional forest departments. A good part of the success of community forestry in Nepal can be attributed to local foresters banding together around the concept and receiving training that allowed them to see forest management differently (Kanel 2008).

Forests often host the most marginalized people in the sub-continent. Furthermore, community forestry can restrict forest use leading to income losses. The Indian and Nepal governments increasingly recognize the importance of linking poverty reduction more directly with forestry reforms. Consequently, the government of India has created federations of FPCs under Forest Development Agencies, which tie forest access rules with employment generation schemes, value addition activities and rural development. This requires coordination across Ministries and departments, which is always challenging. Nepal has started a pro-poor program that promotes use of community forestry funds to directly improve the lives of the poorest. By government ruling, a per cent of forestry funds is set aside to help the identified poor through micro-credit and training scholarships. However, as Pokharel (2008) finds, these pro-poor programs may actually benefit the non-poor more. Examining data from 100 CFUGS, he estimates that “some 74 per cent of the benefits of community forestry funds accrue to the non-poor”. Thus, while decentralized forestry in India and Nepal has taken on some of the challenges of poverty reduction, it appears to have a long way to go to really benefit the very poor.

Nonetheless, with almost two decades of decentralization, equity in benefit distribution needs to be addressed. Given the nature of society in South Asia, which is so segregated along caste and class, leaving these issues to communities to settle is inadequate. The presence of heterogeneity in communities and the possibility of elite capture do not argue for scaling down the current enthusiasm for communitarian management. Rather, a conscious effort is required by the implementing agency to ensure fair support to backward class/caste groups and women. Micro Plans can identify the specific needs of women and the land less poor, and, plan for their availability. Recognition of differential needs and democratic participation are both important for equitable rule-making.

Other challenges remain. Decentralization can lead to a mismatch between what is required from an ecosystem services perspective and what is known to work better from a social management perspective. In forest and water management, it is also important to consider issues of upland and downstream coordination, which cannot be tackled entirely at the local level. Ostrom’s (1990) idea of nested institutions is beginning to emerge as a solution with the creation of federated organizations in Nepal and India. The role such federations will play and their relationship with state and communitarian agencies needs clarification and further examination.

In general, there is no escaping the economic analytics underlying community decisions (Dasgupta 2008). Whether devolutionary policies meet their goals or not depends on the returns from local resource management to communities and the communities’ own supply response to the changes and incentives presented by devolutionary policies. Some of these responses may take a significant amount of time before they can become effective.

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