Democracy on the Commons: Political Competition and Local Cooperation for Natural Resource Management in India

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ABSTRACT
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Abstract

This dissertation explores the effects of democratic competition among political parties in India on natural resources and the ability of local communities to cooperate for natural resource management. A significant number of decentralization policies in developing countries depend for their success on local collective action for the provision of public goods. At the same time, democratization generates multiple impulses in society, and understanding its effects on the prospects for local cooperation is important for explaining the variation in success of decentralization policies for natural resource management.

I use historical and ethnographic data to understand the influence of political competition on natural resource outcomes and local collective action. The descriptive analysis draws upon theoretical and empirical literatures on political competition, collective action, and property rights, and is used as the basis for generating hypotheses as well as specifying context-specific measurements of the relevant variables for statistical analysis. I test the hypotheses on two sets of dependent variables – local cooperation and forest condition – and three datasets covering community-based irrigation and forest management systems, co-management institutions for irrigation, soil conservation, and forest management, as well as state-managed forests as the null category without decentralized management.
The findings show that an inclusive pattern of political mobilization and party competition have increased the salience of environment and forests in the public domain and democratic politics, with a positive effect on resource outcomes. Further, natural resources are better managed by decentralized institutions, compared to state management. However, communities located in highly competitive electoral districts find it significantly more difficult to cooperate due to interference from political parties. Moreover, communities that are heterogeneous along the salient issue dimension in democratic politics are the worst affected. On the other hand, better representation of sub-group interests in community affairs, prevalence of democratic practices, and linkages of community leaders to multiple political parties are associated with higher levels of local cooperation. In conclusion, the findings demonstrate that communities are better at natural resource management than state agencies, but the impulses generated by democratization can constrain the ability of local communities to manage natural resources.
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1. Local cooperation in a competitive political context

1.1 Introduction

With the progress of democratization across the developing world, competition between political parties has become the prime vehicle of democracy. A growing literature in Political Science seeks to explain the causes of variation in political competition across cases, while another body of research examines the effects of political competition on various outcomes, such as party strategies, economic policies, ethnic violence, and decentralization. Departing from an earlier focus on clientelistic or neopatrimonial relationships between leaders and voters, or alternately, on static formal models comprising of one issue dimension, two parties, single-peaked distribution of voter preferences, this literature is contributing to a dynamic understanding of political competition and party-systems (Kitschelt and Wilkinson 2007). The causes of variation in patterns and levels of political competition have been traced to electoral institutions and social cleavages. Political competition generates incentives for parties and politicians to innovate in their strategies for voter recruitment, and new research has indeed begun to model parties as adaptive agents with limited information. As empirical research and computational modeling match theoretical insights from formal models of political competition, political scientists are witness to a possible matching of theory to the complexity of real world politics, moving beyond the world of steady-state.
equilibria. Scholars have demonstrated the contingent nature of the effects of political competition, such as on ethnic violence (Wilkinson 2004) and the success of ethnic parties (Chandra 2004), or the multi-level nature of the relationships, such as the effect of sub-national political competition on national politics (Remmer and Wibbels 2000).

Insofar as parties contest in the electoral arena on the basis of distinguishable policy portfolios and/or issue agendas, political competition also creates incentives for parties to seek electoral issues that divide voters along new dimensions (Shepsle 2003). If parties are indeed adaptive organizations competing for votes in a multi-dimensional issue space (Kollman et. al. 1992), then the intensity of competition will influence the strategies adapted by particular parties. On the other hand, higher levels of political competition might also generate more inclusive patterns of political recruitment (Coppedge 1993) and contribute to the provision of public goods through state policies (Fiszbein 1997). However, much of this theorizing regarding the relationship between party strategies and political competition hinges on the distribution of voter preferences. Recent work suggests that more ‘rugged’ political landscapes, characterized by asymmetrical or changing distribution of voter preferences and low levels of information about these with political parties, are associated with greater variability in policy platforms (Kollman et. al. 1998) and party strategies (Laver 2005).

Voters are invariably members of communities at the local level, participating in intra-community affairs to different degrees. Not much research investigates the
relationship between political competition and intra-community interactions. To the extent that voters are not isolated non-communicating agents, the structure of community interactions in limited information settings might affect both voter preferences and party mobilization strategies (Chandra 2004). On the other hand, there is increasing policy and research attention towards encouraging local cooperation for the provision of public goods at the community level, ranging from participation in Parents and Teachers Associations for better education, to management of fisheries and forests for poverty alleviation and sustainable development. Micro-finance and community-based natural resource management have emerged as the leading edge of policy innovations in alleviating poverty and arresting environmental degradation. Whether it is women’s savings and credit groups in Bangladesh or extractive forestry reserves in the Brazilian Amazon, the power of community groups to define their collective destiny is being recognized and implemented in more than 60 countries (Ribot and Larson 2004).

Over the last decade, ‘community’ has also been absorbed as a template for ‘sustainable development’ by multi-lateral and bilateral development agencies, followed by several national governments in developing countries.

Much of the theoretical work on cooperation and collective action has focused on the incentives faced by individual cooperators. Mancur Olson’s seminal work demonstrated the implausibility of a large group of individuals cooperating to produce goods with non-excludable attributes (Olson 1965). Consequently, group size and
heterogeneity have become important factors in the study of collective action. At the same time, computational, experimental, and empirical studies have demonstrated that cooperation is likely, and researchers have explored the conditions under which groups are able to produce non-excludable (public or common-pool) goods. Iterated interactions, inter-personal trust, and secure property rights have emerged as correlates of successful cooperation in laboratory and empirical settings. This has been particularly true for management of natural resources, such as forests, fisheries, or irrigation. A large body of work has investigated hundreds of cases of successful local cooperation for natural resource management.

Theoretical understanding of local cooperative initiatives for management of natural resources has also been driven by a focus on the internal characteristics of communities. Studies have pointed out features that help overcome free-rider problems and encourage internal cooperation, such as small group size, clearly demarcated boundaries, shared norms, exclusive property rights, ease in enforcement of operational rules, and limited heterogeneity within the group, among others (Hardin 1982, Mckean 1992, Olson 1965, Ostrom 1990, Taylor 1987). Other studies, concentrating on natural resources, have pointed out features that are associated with sustainability, such as high dependence on and information about the resource, low levels of articulation with markets, availability of low-cost exclusion technology, and possibility of storage and

Much of this analysis ignores or glosses over the role of the external environment, within which local communities must perform, chiefly using it as an excuse to explain resource degradation or collapse of local arrangements. Such analysis then concludes that a certain degree of autonomy and low level of external interference are necessary for the functioning of institutions for collective action (Bromley 1992, Ostrom 1992). While the study of long-standing, isolated, and successful systems has provided extremely useful insights regarding the correlates of success along multiple dimensions, it doesn’t help us in explaining or predicting success in the great majority of actual situations where the systems are not isolated from external influences. Larger processes of socio-economic and political change induce changes to the distribution of endowments and interests of group members, and introduce a dynamic element to the interactions between collective action and the external environment (Agrawal 2001, Chhatre 2007). Political competition in increasingly democratic contexts represents such an influence.

Heterogeneity of endowments and interests within the community has long been identified as a prime obstacle to local cooperation. As political competition encourages political parties to seek new supporters, parties have an incentive to raise issues that divide the electorate along new dimensions or reinforce old dimensions. In
heterogeneous communities that may already find it challenging to sustain cooperative efforts, high levels of political competition represent an additional source of stress on local cooperative arrangements, particularly if divisive electoral issues reinforce existing internal cleavages. At another level, parties or individual politicians will try to direct the flow of state resources to particular target groups. Where such targeted groups are a minority in a heterogeneous community at the local level, such attempts would adversely affect the incentives of individuals to cooperate. There is a huge literature connecting electoral institutions to party and political strategies of voter recruitment and mobilization, but this has not been employed to examine local cooperation, local institutions, or the health of local resource-dependent economies at all. Systems with Single Member Districts with a plurality vote are more likely to encourage targeting and pork-barrel politics but also provide incentives to parties to build broad coalitions of supporters. Proportional Representation systems encourage issue campaigning and provision of public goods, but there are few incentives for issue bargaining at the local level. While electoral institutions will determine the nature of political cleavages and changes therein over time, the influence of political competition on the ability of local communities to cooperate is likely to be mediated through such cleavages at the local level. Surprisingly, important as electoral rules and political competition are to those who study democratic institutions, it has been ignored entirely by those who study local cooperation and resources. Therefore, even where high political competition leads to
better state provision of public goods, its direct impact on the cooperative ability of local communities might be adverse, and mediated through within-group heterogeneity.

Communities, heterogeneous or otherwise, are more likely to respond proactively to such divisive influences if members are able to negotiate and compromise so that group cohesion is maintained. Three factors would contribute to a greater ability in communities to respond positively to threatening external pressures. First, the degree of autonomy and discretion that the community has in making decisions regarding compromises or redistribution is critical in determining the extent to which a local community is able to make decisions collectively and autonomously. Second, the structure and nature of interactions within the community, especially for natural resource management, should also influence the ability to respond to external pressures such as generated by political competition. Where a high proportion of the members participate actively in management affairs, or in communities that have established practices of democratic representation of within-group interests, it is likely that the pressures from political competition would have less of an effect on local cooperation. Such communities are more likely to be able to negotiate and reach compromises over conflicts arising from heterogeneity of interests. Third, linkages to political parties would allow better communication between group members and representatives of political parties, increasing the leverage of the community with respect to political parties. However, for such linkages to work in favor of the community, these should
ideally be to more than one political party that seeks to recruit or represent the interests of members of the community.

Even less attention – compared to the ability of communities to cooperate under a highly competitive political context – has been paid to the objectives of cooperation. As mentioned earlier, scores of decentralization policies in natural resource management in the last two decades all over the developing world depend for their success on local cooperation (Ribot and Larson 2005). Following Elinor Ostrom’s ‘Governing the Commons’, field researchers and theorists alike have developed persuasive arguments that posit ‘community’ as a viable third alternative to markets and states as the institutional locus of decisions regarding natural resource management. Common property institutions have been suggested as providing the necessary incentives for communities to perform and provide goods and services where states and markets are inherently inferior. Consequently, there is a gradual movement towards reassignment of property rights over natural resources in the direction of providing greater discretion and management autonomy to local groups and communities in rural areas in developing countries (White and Martin 2002). However, there has been no systematic analysis of the effect of such common property institutions on resource outcomes. Do policies that devolve authority, over forest management for example, to community institutions improve the condition of the resources? We do not have any systematic evidence that such decentralization of management authority will produce better
resource outcomes compared to other forms of management under conditions of high political competition.

This chapter explores the literatures on political competition, collective action, decentralization, and property rights to develop an analytical framework to examine the relationships between political competition and local cooperation, particularly for the management of natural resources. After reviewing the theoretical and empirical literature in the next section, the second section draws a set of hypotheses about the theoretical relationships and lays out causal mechanisms that can be empirically tested. The third section describes the research design, including a short introduction to the empirical context of the research and a description of the data on which the hypotheses would be tested in later chapters. This introductory chapter concludes with a summary of the chapterization of the dissertation.

1.2 Theory and Evidence: Local cooperation in a changing political context

Electoral competition among parties representing different interests in society has been welcomed as an important dimension of the process of democratization. Political competition can potentially lead to more responsive leaders and government (Coppedge 1993, Fiszbein 1997), better provision of public goods (Echeverri-Gent 1992), or even improved environmental policies (Wilson and Damania 2005). However, recent work has pointed out the mixed nature of the blessing of competition. Chhibber and
Nooruddin (2004) argue that an increase in the effective number of parties is associated with a lowering of the provision of public goods in favor of club or private goods. Presenting evidence from the Indian states, they demonstrate that states with more than three effective number of parties in legislatures provide systematically fewer public goods than states with fewer than three effective parties, tracing the difference to mobilization strategies of political parties. In two party situations, especially in the presence of a plurality rule, parties require support from many social groups and larger proportion of the electorate, which can be reciprocated more often through public goods. In multi-party situations, parties only need a plurality to win, and can promise and deliver club goods to smaller segments of society.

A high effective number of parties in the electoral arena denotes a heterogeneous polity. Heterogeneity affects political competition and party strategies at multiple levels. Most analyses of the effects of ethnic, religious, or linguistic heterogeneity have focused on national or provincial levels. Alesina et. al (1999) find that provision of public goods in US cities is inversely related to their ethnic fragmentation, and trace the pattern to heterogeneity of preferences across ethnic groups. Others have reported that support for welfare is positively related to the share of local welfare recipients belonging to the racial group of the respondents (Luttmer 2001). At the level of local communities, therefore, the effects of political competition are likely to be conditioned by the level of local heterogeneity. If political competition leads to better provision of public goods, as
in the two-party situation argued by Chhibber and Nooruddin (2004), it will adversely effect local cooperation if existing sub-groups perceive inequality in their distribution. Where political competition leads to targeted provision of goods to sections of the population, a similar logic will characterize the relationship between political competition and local cooperation. Finally, the effect of heterogeneity will also be incumbent on political salience (Posner 2004). However, which cleavages become salient in particular contexts will also be determined by the level of political competition and the nature of the party system.

As local communities perform better in terms of cooperation or natural resource management, external actors have found it in their political interest to intervene and assert control (Cornelius et. al. 1994). In a democratic setting with varying levels of political competition, the availability of development funds and their use as political instruments would result in divisive influences on local cooperative arrangements (Krishna 2002). Therefore, there is an inherent tension between effectiveness of local cooperation and political interference, especially in a competitive political context. The better a community performs, the greater the incentive of higher-ups to interfere.

\[1\] Public goods in theory can’t be unequally distributed since they are non-excludable. However, in reality, a lot of “public goods” that are analyzed in the literature aren’t public really, they are either club goods (public goods within the club of course), or what’s really being produced and distributed isn’t the public goods aspect of the item but the very finite, exhaustible, divisible, and excludable budgetary allocations to produce these restricted public goods. Often, the utility of public goods (like roads or handpumps) is restricted by geographical location, even if theoretically everyone is free to use them. The decisions regarding the location of such public goods can be and indeed are made according to strategic political equations, and can lead to the perception of inequality or unfairness in their distribution.
Conversely, the resources that any new policy makes available are likely to be unevenly distributed across communities, as a function of political competition (Costa-I-Font et al. 2003), or deployed as a regime-legitimizing strategy (Dresser 1994, Horcasitas and Weldon 1994). Some local groups will do better at exercising the new powers and capture more of the new resources than others. In either case, successful cooperation in one period is likely to increase political interference in later periods. This will be particularly true for community initiatives that represent significant political and financial resources, such as Kenyan group ranches, Mexican ejidos, or Brazilian extractive reserves. Successful cooperation and good outcomes thus invites interference that may undermine this cooperation and undo these outcomes, making the happy equilibrium envisioned by common property researchers elusive in situations where it is not possible to completely insulate local community efforts from external processes.

Competition between parties is not only about public goods and their relative provision and distribution. In a multi-party environment, parties also need to adapt to changing affiliations and preferences of voters (Laver 2005). In a highly competitive polity, where just a small fraction of swing votes might be the difference between victory and defeat, parties have an incentive to innovate in their strategies, and different strategies might have variable impacts on the ability of local communities to cooperate. The lowest level of competition is at the electoral district, and parties will design mobilization strategies tailored to local contexts. Depending on the degree of party
discipline and institutionalization, mobilization strategies will vary across districts, with concomitant variation in its impact on local cooperation. Strong presence of an ideological left (communist or socialist) party characterized by disinclination to move its position is likely to pull other parties’ positions towards itself. Therefore, shifts in party strategies in such a situation will be towards provision of more public goods, and conversely, the absence of a strong left presence will lead to ‘predator’ behavior, characterized by Laver as moving towards the position of the dominant party (Laver 2005). The presence of left-wing mobilization – whether by a political party or non-party social movements – in a system dominated by centrist parties is likely to encourage the dominant parties to capture the left vote by promising more public goods (Kohli 1987). The effects of political competition, therefore, will be influenced by the ideological spectrum facing the electorate.

To sum, the possible channels of the influence of political competition on local cooperation will work through two pathways. First, local heterogeneity will make it more likely that mobilization strategies of political parties and candidates at the district level will divide the community, making cooperation difficult. This effect will, however, depend upon the salience of the heterogeneity in specific political contexts. Of course, which dimension of heterogeneity becomes salient will be determined at the legislative level, beyond the reach of influence of any one community, removing a source of subjective bias in the measurement and subsequent analysis. Second, at the level of the
legislature, strong left-wing mobilization will force the other competing parties to change the nature of political debate so as to move towards non-partisan policy platforms.

**Institutional autonomy and decentralization of natural resources:** Political scientists are beginning to explore the consequences of decentralization of management to lower levels of government, typically from national to provincial or municipal jurisdictions (Andersson et. al. 2004, Andersson et. al. 2006). A second body of research focuses on the performance of community-level institutions in managing natural resources (Agrawal and Chhatre 2006). Often, these groups are not pre-existing but are constituted anew through state policies and programs. The work on decentralization has paid greater attention to the causal influence of political competition in explaining decentralization, while little attention is paid to the dynamic interaction between political competition and local cooperation after decentralization. The work on performance of community-based institutions, on the other hand, does focus on factors affecting the ability of local communities to cooperate in management but without explicitly examining the effects of district or higher-level political competition. Existing theory and evidence does not adequately examine the conditions under which decentralization of natural resource management will be enabled or hindered by levels of political competition. As both democratization and decentralization proceed apace across the developing world, the knowledge of such interactions will help in designing
policies that mitigate any adverse factors in a given situation. More importantly, such a theoretical enquiry should also enable a better characterization of the factors that explain the variation in the success of decentralization policies, to the extent that it can be attributed to a lack of correspondence between decentralization policies and the specifics of democratic politics.

The last decade has witnessed a proliferation of policy initiatives in developing countries that call upon local groups and communities to cooperate in the production and provision of goods and services. This trend has also benefited from increasing bilateral and multilateral donor support for such policies. A majority of policy reforms in the natural resources sector, even where no formal decentralization to community-level institutions has taken place, call upon substantial participation of local users in monitoring, enforcement, and management. Natural resources, particularly those upon which local communities depend for survival such as forests and fisheries, need to be managed in sizable units for viability that often entail a large number of users. Natural resources are subject to ecological rhythms and economic cycles that are often unpredictable in the short-term. Issues such as perishability and mobility/storage of natural products interact with prices in distant markets to structure the incentives of local actors. Natural resources are also heavily influenced by history and political economy, especially in situations where natural resources are a significant source of revenue or patronage (Chhatre and Saberwal 2006a, 2006b, Guha 1983). Communities
that share a collective interest in sustainable management of both harvestable income and environmental services will have to be able to deal with internal free rider problems in order to get good results. Thus, the focus in the literature on community-based natural resource management has been on how to achieve internal cooperation and overcome free rider problems through the design of appropriate institutions.

It has been argued that groups that have a high degree of autonomy and discretion regarding rule-making and enforcement, and/or support from higher levels of government are better placed to reconcile such differences without compromising on the level of cooperation (Fehr and Rockenbach 2003). The lack of autonomy provided to communities is the dominant theme in critiques of policies for devolution of authority to communities (Ribot 2003). Experimental and empirical evidence suggests that imposition of rules by external agents leads to lower levels of cooperative behavior compared to situations where users devise the rules themselves (Cardenas et. al. 2000). Therefore, the ability of a community to cooperate for the management of natural resources would be enhanced by a higher degree of discretion in decision-making and a significant measure of autonomy from external interference. The clearest indicator of the degree of discretion and autonomy is the clarity, security, and scope of property rights transferred to the community-level institutions.

Property rights over natural resources are best understood as rights to flows of benefits from resources. Schlager and Ostrom (1992) have argued that ownership per se
has no relation to the stream of benefits to holders of property rights, ranging from ‘authorized user’, ‘claimant’, ‘proprietor’, and finally, ‘owner’. There is also ample empirical evidence that owners are not the only users who make long-term investments in improvements of resource systems (Baker 1997, 2005, McKean 1992, Ostrom 1990). It may also be noted that such diversity of nomenclature is often reflected in legal and tenurial arrangements, such that different users of the same resource may have different property rights over its use or dissimilar claims to benefits from the flows of resources.

Where natural resources have common-pool characteristics (low excludability but high rivalry), sustainable management often requires a complex arrangement of property rights for various users.

Property rights function to reconcile individual and social preferences, and they do so partly by stabilizing the expectations of agents regarding the consequences of their actions (North 1990). The centrality of shared expectations has led scholars to argue that rough categorizations – such as private, state, or communal – fail to capture the diversity of institutional arrangements that characterize the governance of natural resources (Ostrom 2005). Common property arrangements, where users share benefits from a resource, require collective action at several levels, ranging from devising rules for allocation and benefit-sharing, to monitoring and enforcement of the rules, and most importantly, conflict resolution. Moreover, collective management needs to be cognizant of the condition of the resource itself, and be able to adapt rules to changing conditions.
It would be more meaningful to characterize such a regime – where users share property rights over a resource and constitute adaptive mechanisms for management – as an institution, a conglomeration of rules, norms, and expectations. Needless to say, these ‘local’ institutions are embedded in larger social and political systems.

For the purpose of analysis, community-based resource management systems can be analyzed as isolated units connected in identifiable ways to the external world. Common property institutions, in such cases, act as a shell that regulates the interactions of the group and its members with the external environment (Alcorn and Toledo 1998). This shell also determines the flexibility of the institution in the face of threats and opportunities, independent of and in addition to any internal attributes of the members. Thus defined, property rights enjoyed by communities over resources under cooperative management would play an important role in the interactions between local communities and the state, particularly in terms of dealing with pressures emanating from democratic politics.

Ample empirical evidence has been presented to illustrate how communities often use their discretion over resources to mediate between local needs and state policy, to promote the interests of the local community even when under general assault by outside forces, and sometimes even to adopt local policies that are at odds with state policy. Community (indigenous) institutions for artisanal fisheries in Nigeria have responded to internal crisis — distributional or otherwise — generated by increase in
population and commercialization of fisheries, by changing operational rules or constituting accessible conflict resolution systems (Olomola 1998), in a situation where traditional authority is respected by both local actors and state agencies, and communal property is legally protected. Similarly, the Mexican experiment in community forestry through ejidos and agrarian comunidades has recognized local tenurial systems and allowed indigenous communities to ward off challenges from outsiders, and experiment with solutions to internal crises (Alcorn and Toledo 1998, Bray et. al. 2006), an argument also supported by the case of salmon fishing in the US (Singleton 1999). When communities do not have this kind of autonomy, they have more trouble protecting their interests. The absence of similar legal support to local conservation practices in India, such as sacred groves, is leading to a loss of ecological knowledge as well as attenuation of the capability of indigenous systems in dealing with external changes (Hemam and Gadgil 1998). When communities have formal recognition and delineation of clear property rights in one domain but not in another, they can encounter stress on parallel management systems. An interesting example comes from Peru, which has recognized communal tenure over terrestrial resources (forests and pastures) but national fishing regulations continue to be in conflict with local practices. In a study of fishing communities around lake Titicaca, Levieil and Orlove (1990) mention that the formal recognition of communal tenure on terrestrial resources has led to increased conflict and litigation between neighboring communities, and the lack of such recognition on fishing
territories has meant that disputes between communities continue to be resolved outside the courts.

The particular characteristics of any local system – group size and heterogeneity of the constituents, ecological specificities of the resource under management, and nature of relationships to the external world – will shape the incentives of individuals towards cooperation. However, autonomous common property institutions may well be the vehicle or instrument through which the extent to which any dissonance between individual and community preferences can be negotiated and resolved. Autonomy, however, is not sufficient to ensure cooperation where significant heterogeneity of interests makes compromise difficult. A community’s internal political practices may affect whether its discretion and autonomy are used for the whole community, cementing cooperation, or for advantaged subgroups that may well cooperate within themselves but act in conflict with others in the community (Klooster 2000a, 2000b). Groups that are more inclusive and participatory may be more interested and capable of negotiating conflicts and reaching internal compromise. Indeed, for communities with considerable internal heterogeneity, we should not be surprised to find that the institutionalization of conflict resolution mechanisms that are perceived to be fair and impartial across this heterogeneity will promote sturdier compromises, and may even turn out to be indispensable for holding together community cooperation. Scholars have speculated that democratic participation at the local level facilitates greater willingness
to cooperate and compromise (Rodrik 2000), and that repeated interactions – a defining feature of local communities – should enhance the power of rule-based institutions for resolving conflict (Dixit et. al. 2000). Democratic politics also provides multiple channels for the articulation of citizen and community interests with state actors, and mobilized communities with linkages to the larger political process could exploit the presence of political parties to their advantage in a competitive electoral environment. Thus we should anticipate that internal democracy in the functioning of communities will positively affect their ability to deal with group heterogeneity, as well as respond to external pressures generated by external processes such as political competition.

1.3 Operational Hypotheses: Relationships among political competition, local cooperation, and resource outcomes

Theoretical insights from the literatures on political competition, collective action, decentralization, and property rights suggest multiple dimensions of the relationship between political competition and local cooperation for natural resource management. Where higher political competition leads to a more inclusive pattern of political recruitment and/or better provision of public goods, it should enhance community capacity for collective action. The provision of public goods by the state and the enhanced community capacity is likely to be reflected in improved resource outcomes. At the same time, heterogeneous communities might face divisive pressures
emanating from political competition, either through targeted delivery of public goods
to specific sub-groups within the community, or through efforts by parties or candidates
to capture the political and material resources accumulated through sustained
cooperative efforts. The extent to which such divisive pressures bear negatively on local
cooperative success depends upon the flexibility and discretion afforded to local
communities by decentralization policies over the natural resources that are the object of
management. Finally, the structure of interactions among community members – in
terms of democratic practices, representation of sub-group interests, and linkages to
political parties – will determine the extent to which any community can overcome or
mitigate the negative effects of political competition.

The discussion in the previous section leads to the following two broad sets of
research questions and related hypotheses, one for resource outcomes, and second for
local cooperation.

**Decentralization, political competition, and resource outcomes:** Democracy and
environment are sometimes posed as incompatible, to the extent that scholars and
scientists alike propose that the management of environmental resources be handed
over to autonomous scientific organizations, instead of being at the mercy of changing
political currents. The growing salience of environmental issues in global political
debates lends further credence to such an idea. Politicians have typically short time
horizons, defined by the interval between two elections. The philosophical thrust of the
environmental movement is exactly the opposite – ensuring inter-generational equity. Coupled with an increasing lack of confidence in the ability of bureaucratic state or parastatal agencies to manage natural resources sustainably, there is also a general consensus that environmental resources can be managed successfully at the decentralized level. The literature on common property has generated a number of factors that are associated with good community management of natural resources (Agrawal 2001, Agrawal and Chhatre 2006). However, as mentioned already, scholars have so far neglected to attend to the possible influences of democratization on the success of decentralization, bringing into question its desirable consequences. It is likely that the relationship between democratization and decentralization is complex, and much more nuanced understanding is needed before we can stipulate the conditions under which sustainable management of natural resources is possible with democratization, with or without decentralization.

Theoretical and empirical literature suggests the possibility of both positive and negative effects of democratic competition on outcomes with respect to natural resources. Where such competition results in better provision of public goods, and/or makes leaders more responsive to demands from below, it will have a direct positive effect on natural resources or environmental goods and services. On the other hand, a high level of competition between political parties for voters in marginal electoral districts might lead politicians to provide club goods to smaller segments of the
population, possibly leading to undesirable resource outcomes. Examples would include logging concessions or fishing quotas that are not transparent or handed out as part of patronage relationships between particular groups and political leaders. On the other hand, it is equally likely that a mobilized citizenry holds political representatives accountable, an outcome more likely under competitive democratic contexts. All of these effects – of various aspects of political competition on resource outcomes – can be captured empirically through identification and measurement of relevant variables. The positive effects represent a diffused process of democratic consolidation and deepening, and latter represents political strategies of parties in the electoral arena. In addition to these, it should be expected that natural resources managed under decentralized institutions would be in a better condition, compared to other forms of management. These effects can be tested through the following three hypotheses:

**Hypothesis 1A:** An inclusive process of political mobilization and competition at the level of the legislature should be associated with better resource outcomes.

**Hypothesis 1B:** High levels of political competition at the electoral district level will be associated with worse resource outcomes.

**Hypothesis 1C:** Natural resources under decentralized management will be better than those under centralized management.

**Political competition, local cooperation, and autonomy of decentralized institutions:** At the level of the electoral district, high political competition should lead
to mobilization and recruitment strategies that aim to increase local bases of support through capture of local cooperative arrangements, and therefore be associated with a lower level of local cooperation. However, this effect will be mediated through group heterogeneity. The adverse effect of political competition on local cooperation represents the dynamics of competition at the level of electoral district as well as differences in voter preferences. Heterogeneity is multidimensional, and which dimension is politically salient in any given situation or time is an empirical question. The most obvious dimension is party affiliation, followed by socio-economic cleavages. However, in order to eliminate the possibility of tautology, salience of heterogeneity must be measured at a level higher than the unit of analysis, such that – for example – class or caste cleavages become salient through a process of political competition at the level of the legislature or party system, but the number of lower castes or landless can be measured as an indicator of politically salient heterogeneity at the community level. This does not involve the possibility of subjective bias and error in designating politically salient heterogeneity at the local level.

Figure 1.1 provides a graphical representation of the relationship between political competition, local heterogeneity, and local cooperation. A high level of political competition at the state level generates incentives for political actors to mobilize voters along new dimensions, thus creating cleavages within society which are reflected to varying degrees within local communities. That is, the local salience of new cleavages
depends upon the composition of voters at the local level. At the same time, the intensity of competition varies across electoral districts, with some districts being more competitive than others. Assuming a high level of competition at the state level, the impact on local cooperation depends on 1) the level of competition at the district level and 2) the degree of heterogeneity at the local level. Controlling for other factors that affect local cooperation (such as group size, etc.), a local community with high levels of politically-salient heterogeneity located in a highly competitive electoral district should experience the divisive effects of party competition to the greatest degree, reflected in a low level of cooperation. At the opposite end of the spectrum, comparatively homogenous communities located in districts with low levels of political competition should be relatively unaffected in their ability to cooperate, given other factors. The figure below demonstrates this logical flow of arguments, where each vertical panel moves to progressively smaller spatial scales from left to right. The arrows do not necessarily denote causality, but signify configurations of competition and heterogeneity at the state, district, and community levels. Further, these influences do not relate to the absolute level of local cooperation, which is determined by a number or other factors, but only to the change in level of cooperation (either over time or across groups).
Figure 1.1 Political competition, local heterogeneity, and local cooperation

Decentralization policies over natural resources determine the extent of discretion and autonomy enjoyed by communities in management. Flexibility in the institutional framework of decentralization will encourage local cooperation by allowing communities to respond to demands from individuals and sub-groups for representation in management, and better representation of interests should induce a higher level of cooperation. Similarly, higher participation in the democratic process will encourage greater willingness to negotiate and compromise in local institutional arenas. Such participation can be represented as the degree of engagement with democratic politics in general, either through voting or, more meaningfully, other forms of political participation as membership in political parties. However, the local benefits of democratic participation will accrue only if community members have access to
representatives of more than one party. In communities with high levels of politically
salient heterogeneity, negotiation and compromise should be deterred by the dominance
of one political party at the community level, negatively affecting the possibility of
cooperation. Finally, higher frequency of interactions at the local level in
institutionalized settings, and greater democratic functioning will encourage trust and
induce cooperative behavior. For decentralized natural resource management, such
effects can be inferred from indicators of internal democracy, such as frequency of
meetings, turnover of community leadership, and representation of all sections in
management decision-making. The above discussion leads to four hypotheses:

**Hypothesis 2A:** High levels of political competition at the electoral district level
will lead to lower levels of local cooperation.

**Hypothesis 2B:** Politically salient heterogeneity within the community will be
associated with lower local cooperation.

**Hypothesis 2C:** Better representation of sub-group interests in the management
institutions at the community level will be associated with an improvement in local
cooperation.

**Hypothesis 2D:** Community leadership with linkages to multiple political
parties will be associated with higher local cooperation.
1.4 Testing the hypotheses: Data, research location and research design

In order to systematically analyze the relationship between political competition and local cooperation, we need cases and data with several important qualities. First, since the causal mechanisms are diachronic, it is imperative that analysis be concentrated on processes over time. Second, given the multi-dimensional nature of the relationship between political competition and local cooperation, it is preferable to test the hypotheses in as many ways as possible, using quantitative and qualitative methods. The amount and quality of data that one can bring to bear upon the questions will determine not only the confidence in the results, but also their generalizability and external validity. Given the fact that many countries are proceeding with democratic reforms that encourage the institutionalization of political competition, and that mostly the same countries are also instituting policies that call upon local communities to cooperate in the provision of public goods, the answers to these research questions have universal appeal and applicability.

Research Location: In order to capture the local community measures adequately, we will need a data set that includes the widest possible spectrum of levels of cooperation, including close to no cooperation. Examining relationships of local communities with political parties and changes in levels of political competition over time without problems of comparing different indicators of competition is preferable within one country, controlling for political context (Snyder 1999). Beyond this we need
a place where we have meaningful indicators of community cooperation for resource management and good measures of electoral competition across space and over time. This also implies we will need to overlay the geographic basis of electoral competition with the geographic basis for resource systems and communities that manage them. All of these considerations suggest that a large-N data set within a single country, to hold culture constant and to eliminate the problem of devising cross-national measures of highly institutionalized and contextualized phenomena, like electoral institutions and political parties, will be appropriate. The specific hypotheses are difficult to examine in a multi-country research design, where several confounding factors would need to be controlled for, in addition to the problem of comparability of data. Local cooperation is heavily influenced by culture and history, and accounting for those differences is difficult at best among multiple countries. Similar arguments could be made for a sub-national comparative design, especially if the provinces or regions were different enough to warrant caution. One advantage of such comparative frameworks is that they allow for a large-N analysis with sufficient variation in the variables of interest. If these criteria – large-N and variation – could be met while controlling for the confounding factors, the analysis will be easier and the results could be interpreted more meaningfully.

Following this logic, this dissertation research is located in one province in north India. Himachal Pradesh provides a spectacular instance where several aspects of the
research questions can be explored simultaneously, aided by a wide variation in several factors over a 35-year period. Himachal Pradesh provides a rich diversity of examples of environmental change, as a consequence of changes in property rights and larger political economy, and partly as a function of the variety of ecological regimes that it represents. Rural communities in Himachal Pradesh continue to be dependent on natural resources to a high degree, and state control over this resource has been varying over time and between regions. Forests of the state have been utilized for a variety of products for sale in the market, with a few being nationalized in the post-colonial period. Market integration has been uneven across the state over the last century; some regions continue to remain insulated while others have shifted to a cash-crop economy. Demographic changes, both growth of population and spread of education, have followed state intervention in the last three decades, and so has non-farm employment in the rural areas. The geographical diversity of Himachal Pradesh, especially owing to its mountainous terrain, is graphically demonstrated in a satellite image in Figure 1.2.

The province has experienced varying degrees of social mobilization over the last hundred years that can be directly linked to environmental resources. Territories comprising Himachal Pradesh have a mixed colonial legacy. Only about half the area was under direct British rule, the rest being controlled by more than thirty princely states. Experiences of social mobilization, particularly relating to the national liberation movement, were weaker in the princely states. By the early 1930s, the British territories
were witnessing large-scale tenant mobilization, with issues of access to forests at the forefront. The impact of changes in colonial political economy, such as the shift in early twentieth century from timber to irrigation revenues, affected Himachal Pradesh territories differentially due to the variation in ecological regimes. Similarly, policy responses to social mobilization also varied considerably in the post-colonial period.

Figure 1.2 Himachal Pradesh from the sky

Even as levels of mobilization and political competition have risen over the last three decades, Himachal Pradesh has witnessed a high degree of variation in political
competition across electoral districts. Political parties have alternated in power regularly, and successive governments have funneled large amount of public resources unequally across the state. Long-term environmental change has continued, though the state continues to be richly, though unevenly, endowed with environmental resources like forests and water. Development policies such as promotion of horticulture and tourism have affected regions differently within the state. Himachal Pradesh has also taken a turn for the green recently, with the formulation and implementation of new decentralization policies. Particularly notable are forestry policies that devolve regulatory authority to village-level institutions, and development policies that provide greater autonomy to elected councils at the village, county, and district levels (panchayats). Significantly, both initiatives provide greater political leverage in the distribution of development funds, so that political beneficiaries can be targeted with greater accuracy. Such decentralization policies have been supported by all political parties, and are directed at generating broad-based support.

Himachal Pradesh has a wide variety of long-standing local initiatives for management of natural resources. There are community-level institutions that have been set up through state initiatives as well as traditional community institutions. Both kinds straddle the two most important resources in the state – forests and irrigation. Forest Cooperatives and Soil Conservation Cooperatives were set up in the 1930s by the colonial state in response to social conflict in two parts of the province, through different
policy instruments and institutional interventions. Traditional community initiatives for forest management complement these and are mostly present in areas of erstwhile princely states. Small-scale irrigation institutions have been operating almost all over the province, and have witnessed varying degrees of state involvement since the early 1970s, ranging from hostile takeover of management to active support. Fisheries cooperatives have been constituted since 1966 and they are spread across several districts in Himachal Pradesh. Most importantly, several of these fisheries, forestry and irrigation institutions have become dysfunctional in the last three decades, just as political competition has increased in Himachal Pradesh. This variation provides the opportunity to study the relationships between local cooperation and political competition in both successful and failed cases, with everything in between.

**Research Design:** Himachal Pradesh – variation in its history, ecology, and politics – allows the comparison of the responses of local institutions to changes in social, economic, political, and environmental contexts, through a comparison between different kinds of community initiatives. As the analytical framework draws on a diverse body of research, the findings will also contribute to the literatures on political competition, collective action, decentralization, and property rights. The research design also incorporates insights from several research perspectives and methodologies, combining archival, ethnographic, and statistical approaches to address the research questions.
A mixed methods approach

Data from archival sources are used to construct the overall historical context within which particular processes have unfolded in Himachal Pradesh over the last century and a half. Developments during the late colonial period (1920-47) laid the foundation for the evolution of patterns of democratic competition, political cleavages, and social mobilization in the last four decades of the 20th century. Going back even further (1875-1920), colonial political economy and its shifting locus from an emphasis on timber revenues to returns from public investments in irrigation at the turn of 19th century greatly influenced the distribution of property rights in land and forest resources, patterns that provided the framework within which much of the agrarian reforms in the 1970s were carried out. In order to be able to generalize to other regions within India or other countries, it is necessary to fully comprehend the particularities of the experience of Himachal Pradesh and draw out the elements that could be posited as possessing a familial resemblance to such phenomenon more generally. The next chapter provides such a background against which the analysis in later chapters can be used to draw theoretical lessons from the findings. The archival research was carried out in the British Library, London, and Himachal Pradesh State Archives, Shimla, with additional work in HP Legislative Assembly Library, Shimla, for data on the post-independence period.
Causal inference through statistical analysis is crucially dependent on the stability of causal processes over space and time. However, the act of choosing an indicator – a variable – to represent a particular causal mechanism must necessarily attend to the possibility that the meaning of the variable may have changed over time for (or vary across) the relevant actors. Such causal heterogeneity in the temporal or spatial dimension must be attended to before data collection, in order to prevent a misspecification of the causal mechanisms. The research design for this study deployed ethnographic research methods to interpret the pathways of causation in order to select the right indicators for quantitative analysis (Agrawal and Chhatre 2005). For example, the dominant measurement of political competition in the literature is the effective number of parties. It is a useful indicator of competition at the level of the legislature or the party system, but not easily interpretable at the level of an electoral district. During ethnographic fieldwork in select villages across different electoral districts, it became clear that the closeness of the election – measured as the margin of victory – is a better indicator of competition at the district level in the context of Himachal Pradesh. In the largely two-party system in Himachal, increasingly so over the last few elections, the presence of a third party or candidate in any particular district serves to heighten the competition between the two main parties only marginally, and the level of competition in that district cannot be meaningfully said to be necessarily higher than other districts without a third party or candidate. Consequently, the analysis in later chapters uses
margin of victory as one of the indicators of competition. Interviews in the villages and with lower-level party leadership also suggested that both major parties expend extra resources to mobilize voters in competitive districts. To the extent that these efforts are successful across different electoral cycles, voter turnout as a proportion of eligible voters at the district level suggested itself as another indicator of the intensity of political competition.

Another example illustrates the advantages of using ethnographic data to refine the measurement of particular variables. The influence of market penetration on resource outcomes has traditionally been measured as distance to roads or distance to the nearest market town. In the case of Himachal Pradesh (and perhaps elsewhere), these indicators not only are conflated with presence of the state, whose influence also runs along roads or is concentrated in market towns, but also ignore the characteristics of the specific commodities being traded in the markets (Southworth and Tucker 2001). Moreover, such distance indicators falsely assume that market transactions in rural areas necessarily involve roads or are carried out in distant markets. Ethnographic fieldwork and interviews in several villages revealed that the major sources of direct impact of markets on forests involve trading in fuelwood and fodder. However, the nature of these markets is such that distance to roads or market towns is not relevant for capturing the causal mechanism through which this trade affects forest resources. Fodder is mostly traded within a village or neighboring villages, even though it involves monetary
transactions (and not reciprocal relationships that often characterize food grains). Trade in fuelwood often involves illegal extraction from public forests, and is therefore partially underground, making it difficult to measure its extent beyond a confirmation that it exists. Finally, the ecological characteristics of these two commodities lead to contrary expectations regarding the impact on forest resources. Fodder mainly comprises of grass, an annual product that does not impinge on the ability of a forest to regenerate or sustain itself. On the other hand, fuelwood has to be taken from fully-grown trees, adversely affecting the natural regeneration of the forest, particularly if the extraction is illegal. Using these insights, the analysis uses appropriate and innovative indicators of market penetration that reflect the local context, avoiding traditional measures such as distance to roads.

**Political competition and resource condition**

The first set of hypotheses regarding political competition and resource condition are explored in Chapter 3 using a dataset comprising of 205 cross-sectional observations, each pertaining to a forest as an administrative unit as the unit of analysis. These observations are spread over 30 of the 68 electoral districts (and 61 predominantly rural and forested districts) in Himachal Pradesh, giving us a large amount of variation in the dependent variable (change in resource condition over the last five years) to be modeled as a function of various measures of political competition, community characteristics,
institutional features, and biophysical variables. Forests are an ideal choice for testing the hypotheses, not only due the high variation within Himachal Pradesh on the state of the forests, but also because of the increasing attention afforded to changes in forest cover across the world in the last two decades and the potential role of decentralization in reverting forest loss.

Theoretical and empirical research on deforestation has generated a number of insights regarding the impact of socio-political and economic factors on resource condition (Angelsen and Kaimowitz 1999). Demographic and economic factors have dominated the discussion of drivers of deforestation, and there has been animated debate about the impact of infrastructure polices such as road construction. An emerging literature on household choices has sought to model rates of deforestation as a function of incentives faced by individual actors. While the deforestation literature generally takes the province or the county as the unit of analysis, the insights from research on household choices has informed new models of deforestation (Pfaff 1999).

However, this cross-scale linkage between household choices and macro-level changes in forest cover is necessarily incomplete without taking into account the intermediate level – the institutional arrangements that govern a forest as an administrative unit. A comprehensive review of literature on deforestation justifies the rarity of inclusion of institutional variables in models of deforestation with the logic that variables related to “...institutional arrangements are fairly stable over time compared
with prices, for example, and are therefore less relevant to changes in rates of
deforestation” (Angelsen and Kaimowitz 1999: 77), ignoring the possibility that
institutions might enable more or less efficient responses to external changes (such as
market prices). Several studies have demonstrated that institutional constraints on
resource-use mediate the impact of other factors on resource condition by transforming
the structure of incentives facing individual actors (Agrawal and Yadama 1997). The
most important of these are the systems of access, control, and formal property rights
over land and forests. Other aspects include the presence of community-based
institutions, resources devoted to monitoring and enforcement, and systems of
monitoring. Theory of common property suggests that autonomous local institutions for
management can respond to adverse changes in demographic and economic factors in
order to prevent resource degradation (Ostrom 1990).

Institutional constraints on resource use also vary according to the legal
classification of a particular forest. Following the argument that institutional
arrangements moderate the impact of macro-level factors on forest condition,
measurement of changes in forest cover at the county level (with several forests under
different legal or institutional regimes) obfuscates the role of institutions in explaining
deforestation. In order to isolate the effect of variation in institutional regimes, the unit
of analysis has to be measured at the appropriate scale – the level of a forest governed by
a common set of rules and property rights. Analysis at the forest level will allow a more
nuanced understanding of the effects of demographic, socio-political, and economic factors on forest cover and changes therein.

The data was collected in 2000-01 in a collaborative project with Arun Agrawal, and has been augmented with variables for political competition collected during fieldwork in 2004-05. Cases were selected across the altitudinal gradient in the state: we sampled equally from the lower hills (<900 meters above mean sea level), middle hills (between 900 and 1800 meters), and high hills (> 1800 meters). In collecting our data, we were especially attentive to a suite of biophysical, economic, demographic, institutional, and socio-political variables as described below. The questions used during our field work were drawn from the set of community-level data collection instruments developed by the International Forestry Resources and Institutions (IFRI) Program at Indiana University (Poteete and Ostrom 2004; the full set of instruments can be obtained from the authors; more information on the research program and other publications using these protocols is available at http://www.umich.edu/~ifri/). We trained four field investigators in the use of IFRI data collection strategies, and collected the data between April 2000 and August 2001. Data are based on observations, local records, and individual and group interviews in sampled villages. Responses for all questions were triangulated by multiple interviews with different individuals and groups within a community.
Political competition and local cooperation

We examine the various dimensions of democratic politics as they relate to local cooperation in Chapter 4 through the analysis of the experience of 65 cooperatives for forest management in Himachal Pradesh. These cooperatives represent the ideal location for understanding the implications of democratic politics for local cooperation. At first glance, elected village councils (panchayats) would seem to be preferable as the choice for analysis. However, decentralization of powers to village panchayats did not begin in earnest until 1993 through the 73rd amendment to the Indian constitution, and the panchayats in Himachal Pradesh are only beginning to perform their intended functions after two election cycles. Their recent acquisition of powers prevents the possibility of a longitudinal analysis. Moreover, panchayats – in Himachal Pradesh as elsewhere – are not the chosen institutions for decentralization of natural resource management, which are more often constituted at the community-level below the panchayat. Similarly, these community-level decentralization initiatives are also fairly recent, the earliest of the recent wave being constituted in 1994 in Himachal Pradesh. While the experience of these initiatives provides many insights into the relationship between democratic politics and local cooperation, their lack of sufficient autonomy from state interference – relative to panchayats, which are protected by a constitutional amendment, and national and provincial legal instruments – renders them less than useful for the questions at hand.
Cooperatives, on the other hand, are protected by a law that stipulates their governance structures and regulates their relationship to state agencies. The earliest cooperatives for forest management were constituted in the 1930s and the legal regime governing their functioning has changed little since 1971. This provides the opportunity to examine their performance in a longitudinal perspective, in the context of changing patterns of political mobilization and party competition in Himachal Pradesh.

Cooperatives in independent India have always been witness to intense local politics (Attwood and Baviskar 1992), a role they are only now beginning to cede to panchayats. At the same time, the law provides sufficient autonomy to the cooperatives to perform their stipulated functions, and several developmental success stories in rural India over the post-independence period involve rural cooperatives. Dairy cooperatives in Gujarat, sugar cooperatives in Maharashtra, and savings and credit cooperatives in several states exemplify both the intensity of politics in cooperatives, and their ability to succeed in spite of it. The experience of cooperatives in Himachal Pradesh is no different, thus providing an ideal choice for investigating the relationships between democratic politics and local cooperation for natural resource management.

There are many kinds of producer cooperatives in Himachal Pradesh, such as for forests, fish, tea leaves, fruit-processing, honey, weaving, and dairy products, including both for production and marketing. All of these categories comprise both successful and unsuccessful cases. Continuing with the focus of Chapter 3 on forest resources, Chapter
4 analyzes the experience of cooperatives for forest management through the analysis of a pooled cross-sectional time series dataset of 65 cooperatives for forest management, with approximately 30 annual observations for each cooperative. These 65 cooperatives, randomly selected from a list generated from the records of the Department of Cooperatives, are spread over 15 electoral districts, representing the full range of variation in different measures of political mobilization and competition over time and across districts. As per state law, every registered cooperative is required to submit an annual progress report to the Department of Cooperatives, which includes detailed information on procedural transactions like number of meetings and elections. Additionally, the department carries out a financial audit of every cooperative every year, generating annual records of income and expenditure. These records – annual progress reports and financial audits – were used to construct the time-series database. After the information was collected and computerized, political information on the internal dynamics of each cooperative was collected through interviews with the old and current members and leaders of each cooperative. We enlisted the help of Himachal Van Sahakari Sangh, a trade union representing the cooperatives, and the data was collected by four teams of two investigators each. For the statistical analysis, the level of local cooperation for forest management – measured as total expenditure on institutional maintenance, monitoring, and enforcement, corrected for inflation – is
regressed on measures of political competition, group heterogeneity, and control variables using multi-level statistical models.

**The role of state in local cooperation**

Cooperatives in Himachal Pradesh provide only a limited window into the role of state in the relationship between political competition and local cooperation. There is a high degree of oversight of cooperatives by state agencies such as the Department of Cooperatives, and in our case, Department of Forests. Moreover, this involvement of state agencies in the affairs of the cooperatives is fairly similar across all forest cooperatives in the sample. There are two main reasons why it is important to have variation in the role of state in understanding the impact of political competition on local cooperation. First, there exist a large number of community-level cooperative arrangements for management of natural resources that are largely outside the realm of state oversight or intervention. These include small irrigation systems, pasture and grazing management systems, and traditional forest management systems. Most of these systems pre-date the modern state, are often highly successful in their primary objectives, and its members participate in larger processes of democratic mobilization to the same degree as members of forest cooperatives. Second, since these systems have evolved endogenously, any intervention by state agencies has come after the systems of cooperation are already established and functioning. This is in striking contrast to the cooperatives that did not exist until the state – whether colonial or post-colonial-
stepped in to organize community members into cooperatives. It is possible that the influence of political competition on the ability of local communities to cooperate for natural resource management is affected by the role of state – both in terms of the origins of cooperation and the extent of involvement.

Chapter 5 explores the consequences of state involvement in local cooperative arrangements by analyzing the experience of cases exhibiting a range of state involvement. The dataset includes forest cooperatives as the units with the highest level of state involvement, followed by small-scale irrigation systems, and indigenous forest management systems. The information was put together through the coding of qualitative case studies of the units, since regular records and secondary data are not available for all the irrigation and indigenous systems. Primary fieldwork for the case studies was conducted in the summer of 2003 with four investigators, and was followed up with more interviews in 2005. Case studies were designed to generate information such that it could be coded for comparison across the two resource types – forests and irrigation. The data was complemented with decennial census data for precise demographic information. The dataset comprises of 33 cases with four observations each, at ten-year intervals determined by the census years (1971, 1981, 1999, 2001). The case study method only afforded a coarse characterization of success in local cooperation as a dichotomous variable, allowing a logistic regression on several independent variables.
Chapterization

The two time-series datasets cover the period since 1971. The statistical analysis of the three datasets are complemented by descriptive and qualitative analysis using archival and ethnographic evidence, allowing us to examine the research questions laid out in this chapter, and increasing our confidence in the findings. As described earlier, Chapter 2 provides a historical background to the evolution of democratic competition and the political economy of natural resources in Himachal Pradesh. Chapter 3 explores the role of political competition in explaining variation in resource outcomes in Himachal Pradesh. Chapter 4 shifts the focus of analysis from resource outcomes to local cooperation, analyzing the experience of forest cooperatives over three decades. Chapter 5 extends the analysis of the impact of political competition on local cooperation to include indigenous forest management and small irrigation systems, in order to explore the role of state in mediating the relationship. Chapter 6 offers concluding remarks on the implications of the findings for decentralization of natural resource management.
2. Political economy of natural resources in the western Himalayas

2.1 Introduction

The forests of Himachal Pradesh – often referred to as Western Himalayas – have been shaped by several influences over the last more than 150 years. The primary effect of the extension of British rule to the region in 1846 was an end to its isolation from the mainland. Besides bringing the various localities and princely states in the western Himalayas into the grid of rule of law and property, colonial administration also expanded the integration of the region, its people and resources with the rest of India. Consequently, the earliest influences on forests came from colonial political economy – timber and land revenue being paramount considerations in the nineteenth century. The rule of property was extended from agricultural land to forests only in the 1880s in response to the increasing demand and capricious supplies of timber. Forests of the western Himalayas have borne the brunt of repeated assaults for timber extraction, in response to market demand and in excess of all ‘scientific’ prescriptions, the World Wars being particularly flagrant examples. In the post-colonial period, the state used timber as a major source of revenue for financing development. The resultant development itself weighed heavily on the forests, as hitherto untouched high forests were cleared, first for
horticultural plantations, and then for manufacture of packing cases for the exported fruit.

New, ‘modern’ forests were produced by the post-colonial state, in order to fulfill its development destiny. Plantations of industrial species, initiated in the thirties and intensified in the post-colonial period, dot the landscape all over. Much of this new growth is on lands previously under local or community control and providing for subsistence needs of local populations. Similarly, land reforms undertaken in the seventies distributed lands to the landless from similar categories of forests, further reducing the supply of subsistence products. Greater centralization of control over all kinds of non-private lands has also led to a criminalization of informal tenures at the local level. Communities all over the state have responded to these threats, to varying degrees, by initiating or rejuvenating indigenous forest protection systems at the village level in order to tackle the rising scarcities. The efficacy of these systems vis-à-vis state agencies in the management of forests is the focus of subsequent chapters (Chapter 3 and 5).

Processes of centralization of control over forests have unfolded simultaneously with occasional thrusts for decentralization, again in response to specific stimuli. The earliest decentralization policies were initiated in the 1930s, in response to the threat of soil erosion, and the cooperatives set up through these are the subject of analysis of Chapter 4 and 5. More recently, new decentralization policies are being implemented
that seek the formal participation of local communities in forest management – Joint Forest Management – that combine the objectives of poverty alleviation and environmental conservation, in line with similar shifts in national and international trends. At the same time, greater powers are also being devolved to elected village governments (panchayats), although these are not yet responsible for forest management. Both these processes only started in the mid-1990s, and given the short time frame, it is difficult to assess their performance or experience.

All these processes that have influenced forests in the western Himalayas over the last 150 years have also influenced the evolution of property rights regimes across the province. Particular influences have worked differently across sub-regions, and over a long period of time. Moreover, some processes have acted in conjunction, leading to peculiar configurations of property rights in land and forests in the state. Consequently, every forest bears the burden of history rather heavily. This chapter attempts to provide an overview of the major influences on forest condition during the colonial and post-colonial periods, focusing on the manner in which the political economy of natural resources has been central to the evolution of patterns of political competition in Himachal Pradesh.

2.2 Colonial Influences on Forests

The colonial political economy of forests in the Western Himalayas was not different from the rest of India. In contrast to many other regions, however, attempts by
the Forest Department to secure exclusive control over prime forests were foiled repeatedly during the colonial period (1846-1947). In fact, after the passing of the Indian Forest Act in 1878 until World War I, forest use changed little in the Western Himalayas, as the energies of the Forest Department were consumed in defining the limits of their powers. Much of this was spent in negotiating with recalcitrant village communities, as well as in inter-departmental rivalries, especially with the Revenue Department (Tucker 1983: 164, Saberwal 1999). By 1900, the contours of proprietary rights in land and forests of the Western Himalayas had yet to be fixed, and less than five percent of land was classified as Reserved Forests, the most exclusive category in the Indian Forest Act of 1878 (Baden-Powell 1907 Vol. II: 548, Garbett 1938). By 1930, rising agrarian tensions, particularly between landowners and tenants, were making it even more difficult for the Forest Department to exercise any control over territories that it wanted to protect for various reasons. The growth of democratic politics, starting with limited franchise in the 1920s, made it difficult to extend bureaucratic control and provided the institutional apparatus for political parties to shape the emergent party system along existing social cleavages. The provincial elections in 1937 were won by the Unionist Party, a champion of landowners in Punjab and Sindh provinces, cementing the landowner-tenant cleavage as the defining feature of state politics. Although this was over-shadowed by the Hindu-Muslim cleavage in the 1940s, the post-colonial democratic politics, with universal adult franchise, was dominated in the region by the clamour for agrarian reforms. The
linkages between political parties, natural resources, and particular social groups, can easily be traced back to these events in the late colonial period.

Demarcation of the landscape into neat categories with clear property rights can rightly be portrayed as an attempt by the state to make its subjects and landscapes legible (Scott 1998). However, the project of making landscapes and populations legible was embedded in colonial India within the larger project of imposing a “rule of law” in the country. This larger imperative itself arose as the corruption of company officers competed with company profits (Pathak 2002: 166). In most parts of colonial India, the rule of law, comprising of Revenue Settlements, judicial administration, and laws of property, was in place much earlier than was the case in Punjab. When the shortages of timber drove the colonial state to conservation measures and the establishment of the Forest Department, the administration of forests and its users were absorbed within the existing revenue administration in all major provinces. The territories comprising present-day Himachal Pradesh were annexed only in 1849, and the basic framework of administration was still being put in place over the next two decades. At the same time, the expansion of infrastructure – railways and military expansion on the north-western frontier – called for rapidly increasing demand for timber that could be easily met from the western Himalayas. In the event, a careful balancing act had to be carried out between the two conflicting demands of establishment of the rule of law and timber production.
Ramachandra Guha has argued that the Indian colonial state, spurred by the rising demand for timber and the prospect of running out of supplies, appropriated large tracts of forests and classified these as state property. This process, which intensified in the mid-nineteenth century, resulted in widespread dispossession of rural communities heavily dependent on forests for subsistence. The Indian Forest Act of 1878, the sequel to the much milder statute of 1865, provided the colonial state with the necessary teeth to accomplish this takeover, through classification of forests into neat categories (Guha 1983). The changeover to total state control of forests, within a few decades in the second half of the 19th century, has been termed as a watershed in defining the state-society relationship around forests in colonial India.

State policies of exclusion have often been thwarted from both within and without, particularly due to conflicting, and sometimes contradictory, interests and responsibilities of competing arms of the state. Indeed, the Revenue Department in colonial India has been characterized as resisting the annexationist designs of the Forest Department. Guha (1990) traces the debates surrounding forest legislation in the 1870s and demarcates three distinct positions amongst the actors. The most vocal and aggressive position – annexationists, represented by B.H. Baden-Powell – called for total exclusion of private rights from the choicest forests. The other extreme – populists, represented by officers of the Madras Presidency – contested the right of the state to deny local populations what they considered to be legitimate rights in forests. Guha
places a position between these two – the pragmatists, represented by the Inspector General of Forests, Dietrich Brandis – who argued for a middle path. Between the annexationist, pragmatic and populist positions, the particular thrust of the Indian Forest Act of 1878 is seen as evidence of the victory of the annexationist school of thought and the end of the debate (Guha 1990).

Other scholars have challenged this portrayal of an unalloyed victory for the hawks. Pathak strongly objects to the reification of such positions and expresses doubts about the motives that Guha assigns to the various actors (2002). Saberwal (1999) traces the history of interdepartmental conflict and rivalry in the Western Himalayas well past the colonial period and asserts that the Forest Department never succeeded in fully realizing its avowed control over territory and was successfully thwarted, by the Revenue Department in the colonial period and elected representatives in the post-colonial period. Sivaramakrishnan (1997, 1999) also challenges the notion of a unified and centralized state with perfect and total command over its territories. In documenting the process in colonial eastern India, he highlights the tension between local authority and central direction and argues that the centralized body of knowledge that passed for scientific forestry was disputed by local officials in Bengal, resulting in a ‘limited conservancy’ within parameters decided locally.

Guha and Gadgil have documented the numerous peasant and tribal revolts that can be traced directly to the state-sponsored curtailment of forest use consequent to
appropriation (Guha and Gadgil 1989; Gadgil and Guha 1992). Several studies attribute considerable agency to peasant and tribal populations, in deflecting the threat of centralized control and restrictions (Vandergeest and Peluso 1995, Sundar 1997, Sivaramakrishnan 1999, Peluso and Vandergeest 2001). Agrawal (2001) goes further, arguing that overt peasant resistance to the reservation of large tracts of forest in the Central Himalayas in early 20th century forced the state to redraw the boundaries in favour of local populations, through the creation of a separate domain for the exercise of usufruct rights in the form of van panchayats (village forest councils).

However, such accounts of overt or covert resistance to state policies have tended to attribute a level of potency to state agencies and a degree of helplessness to local people that is not borne out by the historical experience of Himachal Pradesh in general. The operative phrase is ‘degree of helplessness’, and historical accounts have portrayed such resistance as invariably failing to prevent the state (or Forest Department) from ultimately getting its way. The furthest such accounts go is for example Arun Agrawal (2001) who suggests that the state carved out village forests at the expense of what it wanted as reserved forests. But in the final analysis, the territorialization (or control over landscapes and what people do inside them) actually succeeded in the case that Agrawal describes. Peluso and Vandergeest (2001) argue that the project of territorialization is uneven across five regions in three countries, but the evidence that they themselves provide show that the state accomplished what it wanted
most of the time, particularly in areas where it wanted greater control. However, there is also evidence that the historical experience of state-society interactions regarding control over natural resources is not always one-sided.

As we shall demonstrate below, the agency of the colonial subject is not always ‘subaltern’, nor is the state inflexible in its disposition towards insurgent demands from below. Fractures within the state apparatus continue to complicate the project of drawing permanent boundaries in the landscape, and the dispersed negotiations with localities has resulted in a mosaic of property rights in the particular case of Himachal Pradesh. As a consequence, the ‘settlement’ of property rights in forests is a close approximation of the literal meaning of the term, and often functions as a contract between parties – state and localities. Sivaramakrishnan (1997, 1999) has demonstrated how similar fractures within the state resulted in a ‘limited conservancy’ in colonial Bengal. Starting with the constitution of democratic politics, elected representatives (and political parties) played an increasing role in mediating the conflicting demands made on the landscape by the livelihoods practices of local communities and the exigencies of political economy. The imbrications of political economy, social mobilization, and political parties in the late colonial period provided the foundation on which patterns of political competition in the post-colonial period have evolved in Himachal Pradesh.

Agrarian conflict, democratic politics, and the political economy of decentralization: When the British finally defeated the Sikhs and annexed Punjab to the
British Empire in 1846, the lineaments of colonial rule in India had largely been set (Pathak 2002). The rule of law and faith in private property were the pre-eminent principles that directed the governance of the new province. Before the extension of canal irrigation transformed the political economy of the Punjab plains, Kangra and Hoshiarpur were two of the important agricultural districts in the region. The first steps in the direction of governance took the form of constituting private property in cultivated lands in these districts, with a view to maximizing land revenue (Barnes 1855). Settlements were the instruments by which peasants were brought into the British rule of law (Saumarez-Smith 1996). Revenue Settlements, beginning in the 1850s, involved generating detailed village-level records of land ownership along with assessment of revenue to be paid on each holding. These Settlements were generally for duration of twenty years, and served as a contract between the proprietor and the state. In return for revenue, the state undertook to provide a rule of law for resolving disputes based on the Settlement records (Baden-Powell 1892).

When the early Revenue Settlements awarded ‘ownership’ over agricultural land, not all cultivators were so honored; custom was brought into play by British officials who brought a typically colonial spin to the social construction of caste in agrarian relations to the Punjab countryside (Singh 1998). Thus, a large proportion of cultivators were rendered ‘tenants’ with a stroke of the pen. This marked the beginning of the process by which the extant social structure, with imagined hierarchies of caste,
was mapped onto the landscape in the form of property rights. Upper castes, that is, Rajputs and Brahmins, were assumed to have ancestral possession of lands, and were deemed to be the rightful owners on the assumption of British rule (Baden-Powell 1907). Other castes, mainly the cultivator castes of Bahti, Jat, Ghirth and Chaudhary, were relegated to an assumed inferior status and unworthy of owning property.

Colonial interventions in agrarian systems produced tensions within villages and among castes along the new fault lines of property. Faced with increasing conflict and decreasing security of tenure as a result of the new arrangements, Government of Punjab legislated a new category in 1868 – occupancy tenants – who could not be evicted easily (Saumarez-Smith 1996). Another set of reforms in 1887 expanded the category and made it easier to claim occupancy status, in response to rising indebtedness, high incidence of land sales and mortgage, and increasing frequency of drought and famines (Baden-Powell 1892). However, the trend of land alienation and indebtedness continued, with concomitant increase in tensions between tenants and landowners, through the turn of the century. The Punjab Land Alienation Act of 1900 failed to stem the tide; it only replaced the non-agricultural moneylender with an agricultural one. In fact, there was a steady increase in total land area alienated after the Act (Nazir 2000). Efforts were made to organize cultivators, owners and tenants alike, into credit and savings groups, to aid them in combating indebtedness. The Punjab Cooperative Societies Act of 1912
provided for state subsidies and cheap credit to these groups to help reduce land alienation, with little effect (Nazir 2000).

Towards the end of the 19th century, as British investments in irrigation infrastructure began to bear fruit, concerns regarding the menace of soil erosion focused attention of state agencies on the situation in the foothills (Saberwal 1999). The focus of attention was the cho, mountain torrents in the lower hills that drained rainwater into the larger rivers. These chos were always subject to flashfloods but recently, in the words and opinion of British officials, had acquired disastrous proportions owing to the increased load of soil and debris they carried. The chief culprit was assumed to be livestock grazing by local and migratory herds and the seasonal firing of common lands, and both Revenue and Forest officials were convinced from the very beginning that the solution to the problem was a prohibition on grazing and fire. Taming the chos through closures became the focus of attention for colonial officials for the first three decades of the 20th century.

The colonial state, in dealing with the problem of agrarian tensions and indebtedness, did not consider the revision of property rights; the upper caste owners were never in any fear of the ownership status of lands under occupancy tenants being

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transferred. In addition, ownership also entailed a share in the village common lands, which became increasingly conflict-ridden as the twentieth century progressed.

Moreover, it was these commons that were the focus of soil erosion control measures, and the Forest Department began enforcing closures under the Land Preservation (Chos) Act of 1900. Co-owners began partitioning off the commons in response to the closures against soil erosion, and the tenants responded by asserting their customary claims to the use of these lands for subsistence use. Many districts witnessed a wave of conflict in the 1920s for access to these lands; the tenants were joined by the traditionally landless service castes of chamar and koli, and conflict spilled over into a concerted opposition to the practice of forced labor for state officials (*begar*) (Darling 1929).

Meanwhile, technological progress had opened up the possibility of using forest products found in the common lands. The resin of the Himalayan Pine could now be profitably processed into Rosin and Turpentine, commodities with a growing world demand. The demand for natural fibres for the paper and pulp industry could be met from Euloliopsis binata or baggad grass found on these common lands. The increase in revenue generating potential of these lands and attempts by landowners to exclude traditional users from share of revenues further ignited agrarian tensions in the 1920s. Thus, even as state agencies were trying to restrict grazing and subsistence activities to control soil erosion, these lands also became integrated into the regional political economy through the supply of pine resin and baggad grass. The tensions between
landowners and customary users, coupled with the threat posed by uncontrolled soil erosion to the prospect of irrigation revenues, provided the background to the emerging pattern of democratic politics in the region.

At the time the Punjab Erosion Committee was formed in 1930 to suggest measures to tackle the problem, less than “9% of the forest area was entirely closed to the grazing of cattle and 18% to the browsing of sheep and goats” in the whole of Punjab (PFD 1931). The situation in the foothills was even worse, with the agrarian conflict preventing any attempt to enclose common lands. In response to the Erosion Committee’s recommendation to involve people in the management of wastelands subject to erosion, a forest officer – A.P.J. Hamilton – was deputed to work with District authorities in the affected regions in 1934. In tandem with Allah Yar Khan, Deputy Conservator of Forests, Hamilton succeeded in persuading landowners in more than 50 villages to enclose over 20,000 acres of common lands to all grazing (Khan 1935). The annual report of the Punjab Forest Department asserted: “Experiments have reached a stage when it can be stated that the training of the chos is a practical proposition” (PFD 1937).

Hamilton revived the idea of bringing the lands under ‘section 38 of the Indian Forest Act 1927’, a proviso that allowed owners of private forests to hand over their management to the Forest Department for a fixed period of time. Over the first few decades of the twentieth century, the village commons had been legally partitioned and
‘privatized’, in spite of conflicting claims on the ground from tenants and the landless regarding customary use rights. Many of these lands were now becoming lucrative as incomes from the sale of grass, bhaggar and Pine resin rose steadily during the interwar period. Hamilton persuaded landowners to hand over the management of these lands to the Forest Department in exchange for the receipts from the sale of forest products from these lands. Faced with challenges to the legality of their ‘ownership’ from other sections of society, upper caste landowners agreed to accept Forest Department stewardship of these lands, thereby strengthening their claim to its ownership.

Simultaneously, the Forest Department succeeded in enclosing the embattled lands it had failed to control for over seven decades. Over the next few years, as the enclosures expanded in direct proportion to the agitation by tenants, the owners were organized into ‘Cho Reclamation Cooperative Societies’ by the Cooperatives Department, and the forests under enclosures were handed over to these societies for management (PFD 1937). By 1938, over 90,000 acres had been brought under ‘voluntary closures’ including more than 30,000 acres of ‘private lands’ (Gorrie 1941).

Developments at the provincial level provided the next spur to the fledgling experiment at ‘voluntary’ closure of common lands for the control of soil erosion. About a quarter of the adult population (and a higher proportion of the adult male population)

2 Resin Industry in Kangra District, Kangra DC Records, Basta 27, Serial 415, File 10(142), Himachal Pradesh State Archives, Shimla.
was granted suffrage in the provincial elections of 1937 (Yadav 1987). The Unionist Party, comprised almost exclusively of landowners, won a majority in the provincial assembly on a platform of security of private property against the claims of a growing tenant resistance (Talbot 1980). Representation was based on separate electorates General, Sikh, Muslim, Rural, Urban, and so on – and the Unionists won 95 out of a total of 175 seats. 84 of these 95 seats were Rural constituencies in the Muslim and General categories. While most of landowners fell in these two categories, the tenants were mostly Sikh. The urgency felt by the landowners, represented by the Unionists, was spurred by the fact that 19 of the 29 Rural Sikh constituencies were won by non-Unionist candidates. At least four of these representatives were communist, but contesting as Congress Party candidates since the Communist Party was not yet formally recognized (Oren 1974).

The Unionists formalized the enclosure of common lands under ‘Cho Reclamation Cooperative Societies’ as a policy and constituted subsidies for their management operations, effectively throwing the weight of government in favor of the landowners. Tenants, led by activists of the Communist Party, reacted to this conflation of state power and local domination with alacrity. A series of incidents of forced entry into the enclosures were reported in the following years. By 1939, the resistance had taken the form of a movement, and invited state reprisals. Several leaders of the movement were arrested, tried and sentenced to imprisonment, even as the pace of the
registration of new cooperatives picked up. Over the next few years, similar initiatives were undertaken all over the foothills in the name of control of soil erosion, but also serving to reinforce the power of landowners. By 1944, there were hundreds of such cooperatives across the districts of Kangra, Hoshiarpur, Ambala, Jhelum, and Rawalpindi. While the debates in provincial and national politics had turned to the question of Pakistan by then, the conflict around common lands and its interaction with democratic politics laid the foundation for the emergence of cleavages in Himachal Pradesh politics in the post-colonial period.

2.3 Post-colonial Developments

Forests and Development: The political history of Himachal Pradesh in the post-colonial period can be distinctly divided into two phases, separated by the grant of full statehood in the Indian Union in 1971. After being constituted as a Part C State on April 15, 1948, by the integration of 31 princely states, Himachal Pradesh went through a tumultuous and highly insecure time during the first two decades of its existence. Starting with four districts and an area of 27,169 square kilometers, the administrative and political status of Himachal Pradesh was consolidated gradually through the incessant efforts of its political leaders (Verma 1995). The federally constituted States Reorganization Commission in its report in 1956 recommended the merger of Himachal Pradesh with neighboring Punjab. Recognizing the dangers of such a merger of a hill state with a predominantly plains state, both in terms of political marginalization and
economic exploitation, the political leadership of the province lobbied hard with the Central Government to prevent such a move. As a compromise, Himachal Pradesh was given the status of a Union Territory under the charge of a Lieutenant Governor and a Territorial Council. In the bargain, Himachal lost the right to a democratically elected government. Sustained political pressure on the Federal Government by state politicians resulted in the Territorial Council being elected by universal suffrage in 1962. In June 1963 the Council was converted into the legislative assembly and democracy was restored. In November 1966, Punjab was reorganized on a linguistic basis and the mountainous areas of Punjab – Kangra, Kullu, Lahaul and Spiti, and parts of Shimla – were merged with Himachal Pradesh, almost doubling its area to 55,673 square kilometers. The province was finally granted full statehood in the Indian Union on January 25, 1971 (Verma 1995).

The survival and development of Himachal Pradesh as a political entity over the first two decades of the post-colonial period is a tribute to the tenacity of its political leadership. Between 1948 when it was formed and 1966 when it assumed its present territories, doubts about the viability of such a small state were always hanging over its head. To a large extent, the ideology and practice of development in Himachal Pradesh was guided by this uncertainty regarding its future and the resulting urge of the political leaders to demonstrate their ability in steering their state towards its development goals responsibly (Parmar 1971). Under the threat of merger with Punjab,
development in Himachal was characterized by a heavy emphasis on doing better along the parameters of the established paradigm, without regard to mountain specificities that dictated otherwise. The immense forest wealth of the state, formidable in spite of the colonial plunder, was deployed for the development of the state (DES 1973). Forests contributed heavily, directly and indirectly, to the revenues generated by the state and thereby to the state GDP. Indirectly, forests contributed land for distribution to the landless, were destroyed by road construction and infrastructure development, submerged by big dams and felled for packing cases, besides continuing to play an important part in the livelihood strategies of the local populations by providing fuelwood, fodder, fibre, fertiliser, medicines, food, employment and cash income.

Two features characterized the interaction of politics and development during this period. First, development was premised on the improvement and utilization of the state’s natural resources, particularly forests, for the development of the state as a whole, and second, a progressive centralization of control over resources was enacted in order to enable the state to meet its development targets. Therefore, plans were laid out to deploy the forest wealth to generate revenue; plantations of pine, eucalyptus and 

\textit{khair} were envisioned as fostering industries of resin and turpentine, paper and pulp, and \textit{katha} (Dev 1970). Timber became one of the prime sources of revenue for the state over the sixties, in proportion to increasing state capacity to exploit resources. In order to implement many of these dreams, powers were centralized in the state capital, as district
officials were instructed on their responsibilities from above. For example, the power to allow *nautor* or breaking new land was taken away from the Deputy Commissioners, as the land reforms process gathered momentum. When land for redistribution became scarce, or under that guise, *shamlat* or village common lands were taken over by the state through an act of law (DES, undated). Later, half of these lands were handed over to the Forest Department to raise ‘industrial plantations’. Much of this was carried out at the cost of local livelihoods, but was not challenged till well after the consolidation of the political status of Himachal Pradesh. By 1975, more than 95% of timber-yielding forests in Himachal Pradesh were controlled by the Forest Department.

Throughout the 70s, forests were mercilessly logged for raising revenues for the state kitty. This was the final decade in a century of accelerating timber extraction. During the 1970s, over 20 million cubic feet of timber was extracted from Himachal Pradesh, providing revenues in excess of 250 million rupees (Saberwal 1999). As the only major endowment of natural resources readily convertible to financial incomes, ever-larger quantities of logs were floated down the major rivers for sale in distant markets. In 1974, the HP Forest Corporation was created as a separate entity to enable the efficient utilization of forests. The rise of horticulture also spelled doom for forests; areas within forests were cleared by landowners for fruit plantations in several districts. Additionally, the state provided extremely cheap packaging material for the fruit in the form of box crates; all supplied from the hitherto unusable and unprofitable (as
commercial timber) Silver Fir and Himalayan Spruce forests. As the production of fruits and their export outside Himachal increased, the demand for packing cases put a heavy burden on the state forests, with the total volume of timber used by sawmills for the manufacture of packing cases officially from the Forest Department rising to 80,059 cubic meters in 1976-77, 83,191 in 1977-78 and 94,464 in 1978-79, the timber coming mainly from Fir and Spruce trees (DFFC 1980). The only nod to conservation was the constitution of several Wildlife Sanctuaries under the Wildlife Protection Act of India (Singh et.al. 1990). This Act, enacted in 1972 at the federal level, reflected a growing ecological slant to the positions of Indira Gandhi, then in control at the Center, with respect to international debates on environmentalism (Rangarajan 2001). However, in Himachal Pradesh, the constitution of Wildlife Sanctuaries represented only a minor acquiescence of the state leadership to national currents. The major flow of policy and practice was profoundly anti-environmental.

The assault on forests slowed down in the 80s, and climbed down to 0.3 million cubic meters of timber in 1990-91 as a result of the state-wide ban on green felling imposed in the early 80s, in response to the great hue and cry against rampant destruction of forests in the name of development (DFFC 1993, DOP 1992). Extraction of crude resin, started in the late 19th century, has increased gradually since 1971, and threatens to substitute timber as the most valuable forest product. Factories for the processing of crude resin were set up in Nahan (1949) and Bilaspur (1969) and the
production of rosin and turpentine has increased steadily over the years. Similarly, katha extraction from khair trees has also been a major revenue generating activity for the forest department, with expected pressure on the forests.

Since the mid 60’s, plantations have been undertaken on a massive scale and it has been one of the chief engagements of the forest department. Plantations have also been the main instrument envisaged for the reproduction of the forest wealth. Plantation activity picked up only in the 60s, rising continuously since then. According to plan documents, the total area afforested in the state between 1951 and 1989 amounts to a whopping 7422 sq.km. or more than one-eighth of the total geographical area of the state and one-fifth of the area under the control of the forest department (DOP 1997). The nature and character of the plantation effort was a reflection of the dominant development paradigm, geared towards maximizing revenue accruing to the state, in the present or the future. As a result of such an orientation, plantation was concentrated on lands considered "barren" or "wastelands", a classification dependent on the presence or absence of trees on the same, and was restricted to species of commercial value to the state.

Needless to say, these areas were pastures and village commons, which were being managed locally according to tradition and custom. Most of these areas, previously variously classified as shamlat lands, bani sarkar and unclassed forests in Kangra, charagah-darakhtan and charagah-bila-darakhtan in Chamba, panvi in Shimla and
Solan, or phat in Kullu, in the respective revenue records, were slowly converted to Demarcated Protected Forests in the course of forest settlements in the post-colonial period, thus delegitimizing local control and strengthening state control. With the enactment of the HP Village Common Lands (Vesting and Utilisation) Act in 1974, half of the lands under the purview of the Act were transferred gradually to the FD over the next decade. 4,32,590 ha or roughly 4326 sq.km. of land was earmarked from such lands for plantation under the social forestry programme in the mid-80s. These areas have subsequently been extensively planted with commercial species, predominantly chir pine and khair in lower altitudes and deodar in the middle hills. Over 70% of the area planted between 1961 and 1989 was covered with these three species (DFFC 1993).

Society and Natural Resources: The people-nature interface in Himachal observed along spatial and temporal dimensions is possibly as diverse and as abrupt as the Himalayas themselves. Ranging from sub-montane, sub-tropical tracts to moist and dry temperate zones and the cold desert, across cities, towns, villages and vast uninhabited areas, forests are used, abused and conserved by local communities in a bewildering variety of ways. This variety is manifest in the rich diversity of livelihoods

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3 Devi Singh, former forest minister, in Development Profile of HP, DES, Undated, pp28
4 The primacy of these species was perhaps the strongest from the mid-70s to mid 80s. The following statistics on area planted illustrate the argument:

1975-76 Total area 17,575 ha, Chil 9024 ha, Deodar 2,803 ha, Khair 3,676 ha
1976-77 Total area 19,987 ha, Chil 9,921 ha, Deodar 3,132 ha, Khair 3,708 ha
(from DFFC 1980, pp 154-161)
and livelihood strategies across the state. Whereas a basic dependence on forests is common, the particular mix of livelihoods and strategies is specific to regions with different historical trajectories of evolution.

Local communities have had the longest claim on the natural resources around habitations, especially forests. The first and foremost claim is for agricultural land, which has been cut out of the hillsides in the form of terraces. However, due to topographical constraints, there are natural limits to the expansion of farmland. Consequently, Himachal has had a greater emphasis on pastoralism in livelihood strategies, entailing a greater dependence on non-agricultural lands for their fodder requirements (Alam 2001). This dependence has ranged from sedentary pastoralism dependent on local pastures and fodder resources, with or without summer migration to higher pastures, to nomadic pastoralists migrating between summer pastures in the alpine areas and winter pastures in the low shiwalik hills. Besides agricultural land and pasture, local communities have also been dependent on resources collected in the wild for construction timber, food, fiber, fertilizer, fuelwood and medicinal plants (Singh 1998).

In order to meet the various demands put on forests, local communities have changed the character of vegetation on the adjoining landscape to suit their needs and have worked hard to maintain the landscape in the desired form against the processes of natural succession and regeneration. The chief instrument used in this process has been
fire. It is clear from historical accounts of the last century that a significant proportion of
the landscape around settlements was treeless and used as pasture, and was regularly
fired. Besides making for a good crop of fodder grasses, firing also ensured against any
encroachments by the surrounding forests through natural succession. Local
communities have often transformed the character of the vegetation in the forests
through grazing, fire and selective use of species. Over a long period of time, local
communities have actively participated in redesigning the landscape at the local level,
dividing it between agriculture land, pasture and forest, carefully manipulating the
species composition of the same. The process has been a dynamic one, responding to
changing requirements and using newer technologies, shaped by state policies and
market forces, and is still continuing. The landscape, thus, to a great extent, represents a
tense equilibrium between the forces of nature and culture.

Besides agriculture, pastoralism has played a major part in the subsistence
patterns in Himachal Pradesh, almost all of it dependent on grazing or fodder collection
from state forests. Various strategies have been evolved involving different livestock
species and their specific requirements. Sedentary livestock grazing of almost all
domestic animals takes place over the entire state. Cattle, goats, sheep, horses, mules
and yak are kept in the villages and grazed in nearby pastures and forests. In many
areas these animals are taken to higher forests and alpine pastures in the summer and
monsoons. While this strategy allows the livestock to graze on the better fodder
available in these areas during this season, the particular seasonality of the migration also allows the local pastures and forests to regenerate. In many parts of the state, notably middle elevations in Chamba, Kangra, Kullu, Mandi, and Shimla districts, cattle are sent to high altitude grazing grounds after summer sowing, the grasslands are enclosed and the livestock is brought back only after the grass crop has been harvested and stored for the winter. Sheep and goats in parts of Kullu and yak and horses in Lahaul and Spiti are taken to alpine pastures during the monsoons in a similar fashion. In addition to these migratory strategies employed seasonally by agri-pastoralists, there are communities of nomadic pastoralists all over Himachal who migrate between different pastures throughout the year. Gujjars (buffalo herders), Gaddis and Kinnaurus (sheep and goat herders) oscillate between summer pastures in alpine areas and high altitude forests, winter pastures in the low hills as well as agricultural fallows in the plains and everywhere in between.

Most of the bulk needs of the rural populace in the state are met through direct collection from state forests. These requirements include fuelwood, timber and slate for house construction (Pratap 1994). Fuelwood is perhaps the most voluminous resource collected directly from nature. Over the years, as forests have increasingly failed to provide the necessary fuelwood, various strategies have been adopted by the people as a response to scarcity. Firstly, wherever possible, landowners have shifted the source of fuelwood to private lands by planting of multipurpose species, sometimes adversely
affecting the productivity of farmland through shading. Secondly, as preferred fuel species have disappeared, people have shifted to less preferred and smoky fuel species, in some cases resorting to the use of lantana as fuel. Finally, there has also been a shift to alternative fuels like dung cakes, kerosene and LPG, in areas where rising incomes allow for the shift, reducing the dependence on forests for fuelwood.

The use of timber and slate in house construction has traditionally been high in the areas receiving snow, whereas it was very limited in the low-lying areas with houses mainly constructed from mud bricks. This timber for house construction has come from the forests and has been restricted to a few preferred species like deodar, kail, toon, shisham and chil. With growing restrictions on timber from forest areas, people have shifted to trees grown on private lands for their supplies of timber, or in an increasing number of cases, are constructing modern RCC structures using very little timber. Similarly, the use of slates for roofing, which were also mined directly by the users in many cases, is also on the decline. The flip side of the coin is represented by the increasing use of stone and sand, which are being mined from dry riverbeds in an unregulated and destructive manner, leading to severe bank erosion in many cases and loss of agricultural land by aggravated floods.

Two aspects of local use of forests by local communities and their livelihood strategies need to be highlighted. Firstly, many of these communities have traditionally been characterized by a caste hierarchy, which was mapped onto the landscape in the
form of differentiated property rights during the colonial encounter, with high castes gaining ownership rights, middle castes becoming tenants, and low castes being relegated to the status of landless workers. Secondly, the respective practices of several of these sub-groups have been socially stigmatized and they are far lower down the caste hierarchy than the cultivating and land-owning castes. In the particular context of Himachal Pradesh, in spite of attempts by the state to ‘develop’ these groups, they remain in the bottom quartile on all human development indicators. Whereas middle-level cultivating castes have benefited the most from development policies and agrarian reforms, the traditionally non-cultivating artisanal castes, the lowest in the hierarchy, have failed to profit from the rising development profile of the state. As these were also the groups that were the most dependent on forests, the impact of centralized control and changing character of state forests has hit these groups the hardest.

The population of Himachal has increased steadily from 2.8 million in 1961 to roughly 6.1 million in 2003, more than duplicating itself in four decades (DOP 2003). Undoubtedly, this rise has made a significant impact on the natural resource base of the state. This bogey has been raised repeatedly by state agencies, particularly the Forest Department, to explain the degradation of forests. Of particular interest is the argument regarding the rights of local populations to construction timber at concessional rates. It is argued by the forest department that the only pressure on the forests after the ban on green felling is for the supply of timber felled for rightholders; that since it is being
provided at atrociously concessional rates, a significant proportion of the timber marked for rightholders is finding its way to the gray market. Another complaint resorted to by the forest department is the increasing grazing pressure and demand for fodder, referred to earlier.

Firstly, recent indications are that use of timber in local house construction is on the decline, due to departmental restrictions on the frequency of distribution of construction timber as well as shift in local preferences to brick and RCC construction using far less timber. Not only has distribution of timber for house construction to local rightholders not increased in proportion to population, but also it is only a small part of total timber removals from the forests by the forest department. The charge that lopping and grazing are responsible for the degradation of the forests is untenable in the face of the fact that not only has the earmarked area for grazing shrunk considerably in the post-71 period, but that the species composition of the forests and grazing areas has also changed, drastically reducing the grass and leaf fodder production. While the increase in livestock and human population has no doubt affected the forests adversely, its impact must be judged in the background of the reduced capacity of the forests, for which population is only partly to blame. Recent studies have concluded that the Forest Department’s rhetoric regarding grazing lacks scientific basis and empirical evidence

\[5\] See respective figures for the break-up of the end-use of timber extracted by the Forest Department, in DFFC 1993 and DFFC 2003.
(Saberwal 1999). Forests have been managed primarily to generate revenue for the state; that livelihood requirements are being met from public lands is a mere accident, it is definitely not a part of the management objectives. In 1994-95, to illustrate, 1805 tonnes of bhabbar grass was supplied to Ballarpur Paper and Straw Mills, Yamuna Nagar, as against 10 tonnes to local artisans making rope as their livelihood, across the districts of Una, Bilaspur, Solan and Sirmour (DFFC 1995, pp10).

**Participatory Forest Management and Local Communities**: There are local initiatives that are outside the purview of state control and supervision and are also not strictly traditional in character. Notwithstanding the commercial orientation of the development process and the subsequent changes in the forests-people-state interface, local communities are squaring up to deal with the increasing scarcities of bulk-use requirements from forests. There are informal forest protection groups, spread across the state, that have sprung up predominantly as a community response to scarcity of bulk-use resources such as fodder and fuelwood. These groups are characterized by a high degree of participation in decision-making, a focus on local needs, and flexibility to allow for changing requirements. These informal systems are only de facto institutions that govern access to forests, and can be further differentiated from similar informal systems of management that appear to have been in place for utilization of forests that predated colonial interventions, in the sense that these new initiatives are explicitly in response to scarcities that can be traced back to recent changes in forests. The
experience of such groups in the state shows that these initiatives are generally more successful even on purely physical criteria such as survival rates of saplings and infringements of regulations (Gaul 2001). The participation of women has been higher in such initiatives than men and in many places women’s groups such as mahila mandals have taken a lead in such initiatives (Berry 2003, Bingeman et. al. 2006). These initiatives have collaborated with a spectrum of agencies and institutions such as panchayats, NGOs, forest department and popular movements. These initiatives have responded to scarcities or opportunities and have operated on minimal or non-existent state support, as the following illustrations show (Chhatre et. al. 1997, WGNRM 1996).

In 1990, the National Wastelands Development Board started a scheme called the Greening of Himalayas Project for afforestation. Activists of the Himalaya Bachao Samiti in Chamba, through intervention of N.D.Jayal, then secretary, INTACH, routed funds to ten panchayats for enclosures to address the emerging scarcity of fodder and fuelwood. The financial support was to last for three years. Villagers constituted committees for the management of the enclosures and village commons were planted with multi-purpose local species, to be protected by a local chowkidar. "Species selected included those broad-leaved trees and shrubs that could provide fodder, fruits and nuts, branches for fuel, pollen for honey bees and nesting for many birds and wildlife. In some areas, survival rates for saplings were near 100%. Slopes that were highly eroded and degraded are now thickly and richly green with young growth" (Gaul 1994). In spite of
the promised aid drying up in two years, these enclosures today look like green islands of mixed broad-leaved species in a sea of degraded waste or departmental chil pine plantations. Similar forest protection groups are successfully looking after small patches of forests in several parts of Mandi and Kullu districts, again with a similar experience of initial support from development projects, which have now dried up (Bingeman 2001). Mahila Mandal initiated groups in the Nargu Wildlife Sanctuary have taken the lead in forest protection without any support and have successfully put a halt to timber smuggling in spite of departmental indifference, and sometimes hostility.

In the post independence era, community involvement was first envisaged in the social forestry program in the late 1970s in the form of fuelwood plantations on community land (Ahal 2001). Village committees were organized to assist the Forest Department in the plantations, which was mainly undertaken on village commons, rather than on forests controlled by the Forest Department. During the Indo-German Dhauladhar Project implemented in Kangra in the 80s, restricted to the southern slopes of the Dhauladhar range, Village Development Committees were formed which undertook plantations, but the committees were left out in the cold when the project wound up, as the forest department had not drawn up any follow up action plan (Ahal 2001). Van Lagao Rozi Kamao was another programme that allotted 2 ha of forest land to families below the poverty line to grow tree crops. Started in 1991, it was discontinued with the change in government in 1993 (Gaul, 1994).
Over the last decade, new decentralization programs have also made their appearance, with the extension of the Joint Management Program to Himachal Pradesh. Starting in 1993 from the districts of Kullu and Mandi, the program was expanded to the whole state in 1998 (Vasan 2001). However, it has also been characterized by an overemphasis on enclosures and plantations, without any move towards a reconstitution of property rights within the community institutions. The Government Order on JFM envisaged the involvement of local communities by organizing them into a Forest Protection Committee, a body of representatives. This committee would prepare a forest microplan in consultation with the forest officials, to be implemented by the Forest Department with help from the villagers under the general supervision of the forest guard, who is also the ex-officio member-secretary of the committee. The villagers would be entitled to all non-timber forest produce (except nationalized produce) and the committee would receive a quarter of the net revenue from the sale of timber, as and when available (IIED 2000).

However, all the state programs designed to involve communities in forest protection (for it is never involvement in management) in Himachal Pradesh during the last decade suffer from the same malaise – unsustainable incentives. Given the history of failure to exclude people from forests, coupled with the Forest Department’s obsession with enclosures and plantations, attempts to persuade villagers to ‘participate’ have been laced with massive doses of financial incentives, largely in form of development...
largesse. Much of it has taken the form of wage labor and public works in the village, often activities completely unconnected to forests. Till now, much of the financial burden has been borne by donor agencies, but the level of investment per village is so high as to be unsustainable; as soon as the project activities cease, as happened with many villages under the DFID-supported Himachal Pradesh Forestry Project, interest in 'community' forestry has been observed to wear off for both the communities and Forest Department.⁶

**Forests and Democratic Politics:** Seeds of the political salience of environmental positioning were sown in Himachal’s politics as far back as the early 80s. The transfer of power in 1982 within the ruling Congress Party from Thakur Ram Lal to Virbhadra Singh can be attributed to the latter’s positioning as an ecologically conscious leader. Ram Lal Thakur was widely perceived to be representing the ‘timber lobby’ in the state. Growing criticism of the government for its logging policies and the predilection of Indira Gandhi in New Delhi to hand-pick chief ministers of Congress-ruled states as well as her growing support for environmental causes, ensured that Ram Lal Thakur ceded leadership of the party to the challenger. Although this move signified an important shift within the Congress Party and resulted in the state-wide ban on logging

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⁶ "Consent has been obtained largely through the short term compensation of paid labor and will dissipate once this ceases. The similar mechanisms of Sanjhi Van Yojana in 'entry point activities' are likely to have the same effect." Forestry Project Impact Assessment Report, August 1999, HP Forest Department and British Department for International Development, India, p12
and hunting, it did not represent a turning point in the dominance of developmental issues in state politics.

Local communities, given their diversity and internal inequality, have continuously resisted the commercialization of forest resources and their subsistence base in the name of development. One initiative that stands out in Himachal Pradesh is the popular movement against commercial forestry, which played itself out in the 1980s. Inspired by the Chipko movement in neighboring Garhwal, the movement challenged the commercial orientation of state forestry on grounds of destruction of livelihoods and its leaders successfully negotiated with the state government in favor of introducing pro-people changes in the management of forests. The negotiations in 1984 resulted in a state-wide ban on planting of eucalyptus on government land, the declaration of ban oak (Quercus incana) as protected species and restriction of commercial species such as pine to less than 40% in the plantation targets, in favor of fodder and fuelwood broad-leaved species. In 1988, the movement again brought the issue of forests and environment into the political agenda by forcing the Forest Department to reduce the proportion of eucalyptus saplings in its nurseries. The Standing Sub-Committee on Environment and Forests of the HP Legislative Assembly endorsed the position of the leaders of the movement, and criticized the Forest Department for being ‘anti-people’. Although the hard won concessions of the movement were also practiced more in the breach, the movement remains the forbearer of the pro-people changes in forest policy and practice.
in Himachal Pradesh, as well as in bringing forestry and environmental issues into mainstream democratic politics (Chhatre 1995).

There is increasing evidence that environmental issues have become important for political parties in Himachal Pradesh over the course of the 1990s. A major program for community involvement in forest protection was launched with great fanfare and media publicity in August 1998 – the Sanjhi Van Yojana, a program funded by the state budget without any donor support. While the program itself has not amounted to much more than its predecessors, the media blitz and the rhetoric have continued, not only through the tenure of the government of Bharatiya Janata Party at the time, but also the Congress regime that replaced it in 2003. In another interesting push towards a greater environmental salience, the government’s decision to go ahead with three cement plants in the state based on limestone mining was opposed publicly in the campaigning for the 2003 elections by Himachal Vikas Congress, a small party in the ruling coalition. While there is a long story behind the politics of coalition government in Himachal Pradesh and the respective origins, ideologies and positions of the various parties, nevertheless, the choice of an environmental issue by a coalition partner does point to the potency of such issues in current politics in the state as well as the direction in which political actors might be moving. Even after Congress returned to power in 2003, the thrust on hydro-electric projects and decentralization programmes has continued unabated, confirming
the convergence of the political parties around the new development trajectory informed by an environmental valence.

2.4 Conclusion: Forests and politics

Himachal Pradesh presents a cheerful picture of forested slopes and regenerating forests amidst the general picture of deforestation in India. The state has escaped the trap of poverty that engulfs several regions; the scenario so omnipresent in the rest of the country, of forested regions populated by the poorest sections of the population, prevented from access to forests for subsistence use by state agencies, is completely absent here. Conflicts around forests appear to be relatively scarce, with almost all citizens enjoying clear and exclusive usufruct rights to the use of forest resources in the state. Two-thirds of the geographical area of Himachal Pradesh is designated as state forests, managed by the Forest Department. However, almost all of these forests are available for use by local populations to varying degrees. Reserved Forests, that most restrictive category of forests under India’s forest laws, comprise barely ten percent of the total geographical area of the state. Forced exclusion of local communities from forests is unusual, and most often unsuccessful. Participatory forestry presents itself as a growing interest inside the Forest Department, with several schemes and projects being implemented with the involvement of local people, although it may be premature to pronounce on its success or failure.
Behind this appearance of sylvan tranquility, however, one encounters a landscape of negotiation and resistance where a century-and-a-half-old war of attrition has been going on amongst different claimants to, and interests in, the forest estate. This conflict is glaringly manifest in the profusion of property rights in forests and their spatial and temporal diversity. Thus, some Reserved Forests, which are meant for either timber production or watershed protection and are therefore divested of rights by definition, are laden with usufruct rights including timber for house construction. In a similar vein, while no forestlands are classified anymore for meeting the livelihood requirements of local populations, almost every forest contributes to household consumption in some way. New claims on forests have emerged, notably those of wildlife conservation and biological diversity, which further erode local claims in favor of centralized control. Historically, processes of centralization of control over forests in general have continued simultaneously with the devolution of authority in some cases to community institutions such as forest co-operatives and soil conservation co-operatives. The evolution of property rights in different parts of Himachal Pradesh is further complicated by disparate evolution of property rights in the erstwhile princely states, comprising half the state in the colonial period, as compared to the districts under British administration.

In the post-colonial period, the imperatives of the prevalent development paradigm and its emphasis on industrialization as the path to development resulted in
an acceleration of the exploitation of Himachal’s forests. This was reflected in two main processes, one of extensive plantations of species providing industrial raw material such as Chir Pine, Eucapyptus and Khair, and second, of increasing exploitation of forest products, such as timber and resin, for distant and emerging markets. The 1980s witnessed the emergence of scarcities in the supply of subsistence products such as firewood and fodder, widely distributed all the over the state. Local communities have responded to this challenge through spontaneous initiatives to protect forests. Simultaneously, these were supplemented by more formal state programs for the supply of forest products, such as Social Forestry in the eighties and Joint Forest Management in the nineties. Political parties have responded to these changes in the society-environment interface by incorporating an environmentalist message, leading to a growing salience of environmental issues in state politics.

Meanwhile, forests continue to be the battleground for diverse interests. The history of different claims and interests in the forest estate helps us to make sense of the property rights regime that governs the use and abuse of particular forests. In a profound manner, the condition of a particular forest is as much a product of the property rights regime that governs its use, as the property rights in the forest are a consequence of a combination of larger processes and the condition of that forest. This chapter provided the background to a detailed analysis of the effect of political competition on the ability of local communities to cooperate for forest management. The
historical analysis outlined the trajectory of state formation and the evolution of state-society relationships embedded in property rights institutions, located within the larger political economy of the region.
3. Democratic politics and forest cover change in the Himalayas

3.1 Introduction

Driven by the experience of logging and clear-felling in countries around the world, the dramatic and sudden loss of forests to massive clearing for commercial and agricultural purposes has attracted the attention of researchers and policy makers, to the detriment of attention towards gradual processes of forest degradation. Further, the literature on deforestation is largely unconcerned with processes of forest regeneration and its determinants. Arguably, global environmental issues such as climate change have reinforced the emphasis on clear-felling as the most important dimension of forest cover change. However, much of the forests in the developing world face pressures that lead to almost imperceptible (positive or negative) changes in response to small shifts in incentives faced by dispersed actors under conditions of scarcity and high dependence on forest products for subsistence purposes. Grazing of livestock and lopping of branches for fodder and fuelwood lead to gradual degradation that can be addressed before the complete loss of the forest. Several developing countries have constituted policies in the last decade designed to reverse the process of forest degradation, often involving decentralization of management authority to community-level institutions.
These initiatives draw upon insights from common property theory in designing community institutions to encourage forest regeneration. Needless to say, the success of such policy initiatives has the potential to improve the livelihoods of millions of households across the world, besides contributing to sustainable development. A focus on deforestation alone is inappropriate for an assessment of such decentralization polices. Recent work has begun to assess the role of community-based management institutions in explaining cross-sectional variation in forest condition (Agrawal and Chhatre 2006, 2007 (forthcoming)). This chapter takes the analysis forward by analyzing the changes in forest condition, rather than its absolute level at any given point in time. A focus on the determinants of improvements in forest condition will provide insights into the potential and limitations of decentralization as a policy mechanism to address forest cover change.

An evaluation of the efficacy of decentralization of management authority over natural resources to the community level in improving forest condition must necessarily account for multiple confounding possibilities. While it is likely that community-level governance institutions foster better cooperation for resource management, the analysis must take into account the larger context within which such local collective action takes place. Social development, indicated by increases in health and education levels, would contribute to improvements in forest cover, either through improved access to information or through reduced dependence on forest resources. Social and political
mobilization is likely to empower local communities to demand better public services from state agencies, and lead to improvements in forest management, irrespective of decentralization. Before we assign credit to decentralization, it is important to specify the conditions under which these policies seem to work better, as well as eliminate (or incorporate) alternative explanations for improvements in forest cover.

In developing countries, natural resources often represent significant sources of state revenue or political patronage, and there are inevitable political coalitions for and against access to forest resources. While there has been an increasing awareness of the role of state policies in influencing deforestation, the politics behind such policies has rarely been incorporated in models of deforestation. With increasing democratization across the developing world, competition for votes among political parties is becoming the prime driver of policy choice, with direct and indirect effects on resource condition. At another level, high political competition also works through indifferent enforcement of conservation-oriented policies that are unpopular with the electorate (Chhatre and Saberwal 2006a, 2006b). Scant theoretical attention has been paid to the relationship between electoral dimensions of democracy and changes in forest cover. Recent trends in places like Himachal Pradesh, where state policies show an increasing commitment to forest protection and improvement with visible success, challenge the simplistic negative relationship often posed between democracy and environment. However, the
specific mechanisms through which democracy influences forest cover remain to be explored.

Forests have been central to the politics and political economy of Himachal Pradesh. During the first two decades after India’s independence in 1947, timber was the main source of revenue for the fledgling state. High rates of logging continued in Himachal Pradesh through the 1970s, and came to a halt only in the mid-80s, in response to a growing outcry against the environmental consequences of Himalayan deforestation. By the end of the 90s, the process had turned full circle. The state now professed a commitment to protecting the forest wealth, and it appears that the efforts have been largely successful. According to the reports published by the Forest Survey of India, Himachal Pradesh is one of few states to witness an improvement in land under forest cover between 1997-2003. However, behind the aggregate improvement at the state level, there is wide variation in outcomes within Himachal Pradesh. During the same period, using blunt categorization, while 1126 square kilometers of forest degraded from ‘dense’ to ‘open’ forest, another 661 square kilometers regenerated from ‘open’ to ‘dense’ forest and another 140 square kilometers regenerated from ‘scrub’ to ‘open’ forest (FSI 2001, 2003). This chapter examines the drivers of this phenomenon –

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1 ‘Dense’ forests are those with more than 40% canopy cover, ‘Open’ forests have a canopy cover of between 10% and 40%, and ‘Scrub’ forests have a canopy of less than 10%. These are broad classifications used by the Forest Survey of India to track changes over time. The aggregate improvement reported by FSI is not a simple addition of these categories, but based on more detailed criteria for interpretation of satellite images (Personal Communication, Hemant Gupta, Deputy Director, FSI, Northern Region).
variation in the changes in forest cover within Himachal Pradesh. Specifically, it investigates the changes at the micro-level, at the level of the forest as an administrative unit rather than at the sub-regional or even district level, paying attention to social, economic, and political processes that might account for the outcomes.

Himachal Pradesh serves as a good example of the mutually-reinforcing trajectories of democracy, environment, and development. Its remarkable performance on economic and social development since 1971 is inextricably linked to the spread of democratic politics during the same period. Patterns of political competition that evolved in the direction of a two-party system have resulted in sustained social and political mobilization that have further entrenched democratic norms and practices. Forms of representative and deliberative democracy have been adopted and adapted down to the lowest level of society, aiding in the peaceful resolution of conflicts that reflect a growing differentiation of interests. The success of state interventions in development can only be understood in the context of widespread collective action at the community-level, the assistance to community agency through state initiatives, and the role of political competition in mobilizing a high proportion of citizens to participate in democratic politics. After a long period of pursuing development strategies at the expense of Himachal’s abundant natural resources, political rhetoric and action has gradually shifted in the last decade towards protection of the environment. The aggregate improvement in forest cover is only one manifestation of this shift. The pro-
environmental positions of political actors only echo a broader shift in popular perceptions with respect to the environment. In this context, recent decentralization initiatives that devolve greater management authority to local institutions, coupled with the activation of agency of community groups, have the potential to successfully regenerate forests while also reinforcing development and democracy.

There are some parallels between the experience of Himachal Pradesh and several other Indian states. Kerala is perhaps the closest in terms of both trajectories of political competition and social mobilization, and development outcomes. There is evidence that a two-party system at the provincial level is better for the provision of public goods by state governments in India (Chhibber and Nooruddin 2004). In spite of the generally alarmist academic assessments of Indian politics, while national politics might be getting increasingly fragmented, trends at the state level are decidedly in the opposite direction. In fact, national politics is getting fragmented because of the rise of regional parties, which only serves to consolidate political competition at the state level. The pattern of a gradual transition towards a two-party system is clearly visible in many states – Andhra Pradesh (Congress vs. Telegu Desam), Madhya Pradesh, Chhatisgarh, Rajasthan, and Uttarakhal (Congress vs. BJP). A few states besides Himachal Pradesh have already settled into the pattern – West Bengal, Kerala, Haryana, Tamil Nadu – and these are also states that have done well on several dimensions of economic and social development. Thus, the locus of development agency within the federal character of the
Indian polity is shifting away from the center towards the states, and the experience of Himachal Pradesh is only a clearer expression of general trends, and perhaps a precursor of things to come.

Himachal Pradesh’s positive environmental outcomes – improvement in forest cover, salience of environment in state politics – and its linkages to the evolution of the party system and patterns of political competition raises the question of the extent to which the parallels with trends in other Indian states will reflect on the environment.

The experience in Kerala and West Bengal with respect to forest management resonates with Himachal Pradesh. A common element – in addition to the others pointed out by Jean Dreze and Amartya Sen (2002) – is the relatively recent emphasis on decentralization as the principal instrument of management of natural resources. West Bengal was the pioneer in experiments with extensive community involvement in forest protection in the late 1970s, and its success has led to the spread of what is known as Joint Forest Management to more than 25 states in India. Both Kerala and West Bengal have also taken the lead in devolving greater powers to elected village councils – panchayats – and their lead is being followed in almost all states, including Himachal Pradesh. There is evidence, presented in this chapter, that community agency has played a big role in the regeneration of forests in Himachal Pradesh. The extent to which decentralization – accompanied by trends in political competition at the state level – can
be translated into positive environmental outcomes in other Indian states remains to be seen.

This chapter incorporates political variables in modeling changes in forest cover. Conceptualizing and operationalizing the influences of democratic politics at multiple levels, the analysis uncovers linkages between democracy and forest condition at the micro and macro levels. I draw from the literature on party competition, property rights, and collective action to generate theoretical expectations in combination with insights from my dissertation research in the western Himalayas to derive specific causal mechanisms and associated indicators linking democratic politics and forest condition. The next section looks closely at the processes in Himachal Pradesh that might provide clues towards explaining the variation in change in forest cover across the state, paying attention to democratic politics, party competition, and social mobilization over the last three decades, as well as the changes in economy and society that such processes have brought about. Section II lays out specific hypotheses for statistical testing and the operationalization of variables and causal mechanisms in the context of Himachal Pradesh. Section III reports the results of a Ordinary Least Squares regression of a dataset of 205 forests selected in Himachal Pradesh. The findings indicate that communally-managed forests outperform state forests, there is a strong and positive contribution of state interventions, and political mobilization is positively associated with improvements in forest condition. The chapter concludes with reflections on the
relationship between democracy and environment, drawing upon the findings in Himachal Pradesh.

3.2 Democracy, Development, and Environment in Himachal Pradesh

In 1956, the States Reorganization Commission recommended the merger of Himachal Pradesh with Punjab, citing its overall ‘backwardness’ and poverty that rendered Himachal unviable as a state in the Indian federal system (Dreze and Sen 2002: 102). The political leadership of the state fought fiercely and successfully to prevent the merger, knowing fully well the consequences of assimilation of the sparsely populated hill region with an irrigation-dominated plains state like Punjab (Verma 1995). Although Himachal Pradesh was granted full statehood in the Indian Union in 1971, this implicit threat and the underlying logic of unviability drove state politicians to prove themselves worthy of statehood. The process of social mobilization started in the early 1960s by the political leaders anxious about demonstrating popular support for their demand for Himachal Pradesh as a separate state. This mobilization gained momentum after 1971 with the implementation of land reforms (see details in the next chapter), and combined with the evolution of political competition and a two-party system, has been instrumental in the creation of a political system that is responsive to citizen demands. Since 1971, Himachal Pradesh has performed spectacularly in almost all dimensions of development, particularly given its low starting point in almost every sector. In
economic terms, its per capita GDP stood at an impressive Rs. 22,547 in 2003, far above the all-India average and better than most states. Additionally, Himachal has also registered a sustained GDP growth rate of more than 6% between 1995 and 2003, paralleling the performance of the Indian economy (DES 2003). At the same time, this growth has been well distributed, with an overall head count index of poverty at 16% of the population (Dreze and Sen 2002).

Table 3.1 Himachal Pradesh: Selected Indicators of Social Development, 1998-99

<table>
<thead>
<tr>
<th>Social Development Indicators</th>
<th>HP</th>
<th>India</th>
<th>HP’s rank</th>
<th>States doing better than HP</th>
</tr>
</thead>
<tbody>
<tr>
<td>School attendance in 6-14 age group (Percent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>97</td>
<td>74</td>
<td>1</td>
<td>None</td>
</tr>
<tr>
<td>Male</td>
<td>99</td>
<td>83</td>
<td>1</td>
<td>None</td>
</tr>
<tr>
<td>Under-five mortality rate, 1994-98 (per 1000)</td>
<td>42</td>
<td>95</td>
<td>2</td>
<td>Kerala (19)</td>
</tr>
<tr>
<td>Total fertility rate, 1996-98 (Percent)</td>
<td>2.4</td>
<td>3.3</td>
<td>3</td>
<td>Kerala (1.8), Tamil Nadu (2.0)</td>
</tr>
<tr>
<td>Proportion of young children who have received:</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>All vaccinations</td>
<td>83</td>
<td>42</td>
<td>2</td>
<td>Tamil Nadu (89)</td>
</tr>
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<td>At least one dose of vitamin A</td>
<td>71</td>
<td>30</td>
<td>1</td>
<td>None</td>
</tr>
<tr>
<td>Proportion of households using adequately iodized salt</td>
<td>91</td>
<td>49</td>
<td>1</td>
<td>None</td>
</tr>
<tr>
<td>Murder rate, 1998 (per million)</td>
<td>21</td>
<td>40</td>
<td>2</td>
<td>Kerala (14)</td>
</tr>
</tbody>
</table>
Even more impressive is the performance on social dimensions. Table 3.1 provides a glimpse of several important indicators of social development, comparing Himachal Pradesh to figures for India as a whole, and Himachal’s rank amongst Indian states. It is ranked first in many health and education indicators, and ranked at least in the top three for all. A comparison with the neighboring state of Haryana, considered one of the more ‘developed’ states in India, reveals interesting contrasts. Table 3.2 provides figures for Himachal Pradesh and Haryana. While Himachal outperforms Haryana in all social dimensions, what is most striking is the contribution of the state in these achievements. Himachal’s teacher-pupil ratio in primary schools is twice the ratio in Haryana; the proportion of children not fully immunized in Haryana is twice the figure for Himachal. Its public distribution system for subsidized foodgrains is used by almost half of the population, and 97% of households have electricity. Even though Himachal’s per capita GDP is lower than Haryana, government per capita expenditure is 30% higher in Himachal. The role of state has been central to the spectacular performance of Himachal Pradesh over the last three decades. What factors lie behind this success?

---

2 It must be further asserted that the state has a primary role in all of these achievements in Himachal Pradesh and Haryana. For example, almost all the primary schools in these provinces are public schools, the state health department is the principal agency for immunization programs, and electricity is supplied exclusively by state agencies.
### Table 3.2 Himachal Pradesh and Haryana Compared

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Himachal Pradesh</th>
<th>Haryana</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income and Expenditure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per-capita household expenditure, 1999-2000 (Rs/month)</td>
<td>740</td>
<td>771</td>
</tr>
<tr>
<td>Head-count index of poverty, 1993-94*</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Per-capita government expenditure, 1993-94 (Rs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3,252</td>
<td>2,490</td>
</tr>
<tr>
<td>Education, Sports, etc.</td>
<td>498</td>
<td>280</td>
</tr>
<tr>
<td><strong>Public Services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of children aged 12-23 months fully immunized, 1998-99 (%)</td>
<td>83</td>
<td>63</td>
</tr>
<tr>
<td>Teacher-pupil ratio in primary schools, 1998-99 (teachers per 1000 pupils)</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>Proportion of households receiving subsidized food from the public distribution system, 1993-94</td>
<td>44</td>
<td>5</td>
</tr>
<tr>
<td>Proportion of households with electricity, 1998-99</td>
<td>97</td>
<td>89</td>
</tr>
<tr>
<td><strong>Educational Achievements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literacy rate, age 15-19, 1998-99</td>
<td>96</td>
<td>88</td>
</tr>
<tr>
<td>Proportion of rural women aged 15-19 who have attained grade 8, 1992-93</td>
<td>48</td>
<td>28</td>
</tr>
<tr>
<td><strong>Mortality and Fertility</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death rate, age 0-4, 1996-98</td>
<td>17</td>
<td>23</td>
</tr>
<tr>
<td>Total fertility rate, 1996-98</td>
<td>2.4</td>
<td>3.4</td>
</tr>
</tbody>
</table>
Shifting political economy and the role of forests

As mentioned earlier, Himachal Pradesh is one of a handful of states in India that have reported a significant increase in forest cover over the last decade. While the results are mixed at the disaggregated level, with some forested regions regenerating even as others have degraded, the overall trend corresponds to an increasing salience of environmental issues in Himachal’s politics over the same period. All the major political parties profess a commitment to preserving Himachal’s environment, and have put the issue prominently in their manifestos during the last two (1998 and 2003) elections to the state legislative assembly. There has also been shift in regional political economy and the place of forests in it, with the massive and steady rise in tourist arrivals since 1989. With escalating violence in adjoining Kashmir, tourists and tourism industry alike shifted their attention to Himachal Pradesh. This trend was further reinforced when widespread agitation in 1994 in neighboring Garhwal and Kumaon in Uttar Pradesh, and the Maoist insurgency in Nepal forced tourists to look elsewhere in the Himalayas. With a tourism policy in place, Himachal Pradesh capitalized on the opportunity by providing state support to the tourist industry through infrastructure development. Tourist arrivals in Himachal Pradesh have more than doubled from 2.9 million in 1992 to more than 6 million in 2004; foreign tourists have gone up from 18,000 to 168,000 over the same period. More recently, focus has begun shifting towards niche tourists seeking specialized activities such as hiking, kayaking, mountain biking, and skiing.
The place of forests – and the kind of forests – in a political economy dominated by tourism is dramatically different from one dominated by logging and/or grazing. As incomes generated through tourism have spread to different parts of Himachal and the fruits of tourism have become more visible and distributed more widely, there has been a steady shift in popular support for environmental protection. After all, the success of tourism in Himachal Pradesh depends as much upon beautiful mountain vistas and clear rivers as on physical infrastructure like roads and hotels. The net improvement in forest cover in Himachal Pradesh reflects this shift in perceptions of citizens and political parties alike with respect to forests and environment, traced back to the growing role of tourism in Himachal’s economy.

Democratic competition and social mobilization

However, the shifts in political economy and/or in popular perceptions of environment are not sufficient to account for the role of state in explaining the variegated pattern of change in forest cover across Himachal Pradesh. Tourism is a developmental issue in state politics and political debates center on its role in increasing employment and household incomes. And it is not the first time that Himachal has witnessed a successful development intervention; it only follows the stellar success of horticulture in generating similar levels of incomes during the 1980s. The state has played a major role in the development of Himachal Pradesh, and this success has been achieved through a steady penetration of rural areas for delivery of public services. A
school enrollment rate of 99% and an immunization rate of 83% in a mountainous region imply a very high degree of success in delivery of public services. This success can be attributed to a combination of competition between political parties and associated social mobilization, which has resulted in a responsive state willing and capable of meeting the demands placed by citizens. Over time (and several election cycles), citizen demands have expanded from education and health to include forests and environmental issues.

Since acquiring full statehood in 1971, democratic politics in Himachal Pradesh has been dominated by two major parties – the Congress Party represents one pole, Bharatiya Janata Party (BJP) the other. In the early phase, the main competition was between the Congress and Jansangh, which transformed itself into the BJP after 1980. While there have been several other parties active in state politics – the two communist parties (CPI and CPM), the regional Himachal Vikas Congress, and other national parties (Janata Dal, Bahujan Samaj Party, Samajwadi Party) – their influence has been minimal and decidedly marginal over the last two decades.

Table 3.3 provides figures to demonstrate the degree to which the two parties dominate politics in Himachal. The structure of the polity in Himachal Pradesh

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3 The table shows a slight decline in the vote share of the two parties in 2003, along with an increase in the effective number of parties in the legislature. This is an artifact of the method of computation that does not take into account intra-party rivalries. Both the Congress and BJP witnessed power struggles before the 2003 elections, resulting in a number of ‘rebel’ candidates from rival factions contesting the elections. Eight such
contributed in large measure to the spread of democratic politics through social mobilization. Power has alternated between the two main political parties; ever since it’s official birth in 1971, only once has a party retained power in state elections. This cyclical transfer of power has had three important consequences for Himachal Pradesh. Firstly, it has denied the opportunity to any political party or organized interest group to consolidate its control over access to state resources. Secondly, the vicissitudes of electoral politics have forced both the parties to retain an edge in mobilizational capacities, especially when out of power, thus allowing for open channels of access to political agents for all citizens at all times on the one hand, and making for strong cadre-based parties with deep penetration into society, on the other. Finally, this has also contributed to an open and responsive polity, with neither of the major parties taking ideological positions with respect to interest groups or developmental issues.

**Table 3.3 Himachal Pradesh: Towards a 2-party system**

<table>
<thead>
<tr>
<th>Year</th>
<th>Vote share of 2 largest parties</th>
<th>Seat share of 2 largest parties</th>
<th>Effective number of parties in state legislature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>By votes</td>
</tr>
<tr>
<td>1972</td>
<td>60.99</td>
<td>85.3</td>
<td>3.28</td>
</tr>
<tr>
<td>1977</td>
<td>76.33</td>
<td>91.2</td>
<td>3.10</td>
</tr>
<tr>
<td>1982</td>
<td>77.68</td>
<td>88.2</td>
<td>2.97</td>
</tr>
<tr>
<td>1985</td>
<td>86.07</td>
<td>95.6</td>
<td>2.46</td>
</tr>
</tbody>
</table>

*winning candidates subsequently ‘re-joined’ the respective parties they had initially rebelled against. If their vote shares were included with their respective parties, the measures for effective number of parties and vote share of the two parties would show a continuation of the trend observed in earlier elections.*
<table>
<thead>
<tr>
<th>Year</th>
<th>Congress</th>
<th>BJP</th>
<th>Change</th>
<th>Clientelism</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>89.15</td>
<td>97.0</td>
<td>2.41</td>
<td>2.43</td>
</tr>
<tr>
<td>1993</td>
<td>84.97</td>
<td>88.2</td>
<td>2.69</td>
<td>2.7</td>
</tr>
<tr>
<td>1998</td>
<td>82.53</td>
<td>91.2</td>
<td>2.83</td>
<td>2.85</td>
</tr>
<tr>
<td>2003</td>
<td>76.38</td>
<td>86.8</td>
<td>3.22</td>
<td>3.25</td>
</tr>
</tbody>
</table>

The competition between political parties has contributed in large measure to the capacity of the state to deliver services in rural areas. As both major political parties maintain a disciplined and extensive cadre-base to meet mobilizational requirements during times they are out of power, the same resources are also deployed for implementing policy and programs during times in power. Villagers regard party agents at the local level as important sources of information as well as starting points for access to state resources in the form of new programs. The presence of both parties at the local level also acts as a check on unbridled paternalism and clientelism.

The competition between the Congress and BJP is reflected in the rising mobilization of voters by both parties. Analysis of vote proportions for the two parties obscures the trend of increasing absolute levels of voter turnout at successive elections. Figure 3.1 provides a look at trends over the last eight provincial elections, suggesting an overall rising curve over the last three decades, but with variation across electoral districts. A detailed description of the relationship between political mobilization and caste or class identities is included in the next chapter, but suffice it to say that high levels of sustained mobilization have contributed to the creation of a politically-active...
citizenry. Mobilized citizens, in combination with receptive political parties, have created the conditions for better delivery of public services. This process is also the main driver of relatively high afforestation rates in Himachal Pradesh and contributing to better husbandry of natural resources. In many ways, Himachal Pradesh represents the best illustration of the positive outcomes flowing from democratic competition.

Figure 3.1 Voter Turnout in Himachal Pradesh over Time, by Electoral District

The schooling revolution and the role of women

One of the best examples of the success of delivery of public services is what Jean Dreze and Amartya Sen have termed the “schooling revolution of Himachal Pradesh” (2002: 177). In 1951, less than 20% of children aged 10-14 years in Himachal Pradesh
were literate, making it no different than other major states such as Bihar and Madhya Pradesh. Today, school participation rates for children aged 6-14 years are 99% for boys and 97% for girls, putting Himachal Pradesh on par with Kerala and far ahead of all the other states. State commitment to physical infrastructure such as roads and schools has always been high in Himachal Pradesh. But the success of basic education in Himachal Pradesh can be attributed only partly to direct state initiatives. A major driving force behind the schooling revolution in Himachal is public action, whereby local groups act collectively to demand better education in public schools. At the forefront of this process are Mahila Mandals and Yuvak Mandals.

### Table 3.4 Himachal Pradesh: Gender-related Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>HP</th>
<th>HR</th>
<th>IND</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female-male ratio, 2001 (per 1000 males)</td>
<td>970</td>
<td>861</td>
<td>933</td>
<td>5</td>
</tr>
<tr>
<td>Ratio of female-to-male death rate, age 0-4, 1996-98</td>
<td>1.00</td>
<td>1.31</td>
<td>1.14</td>
<td>5</td>
</tr>
<tr>
<td>Female school attendance in the 6-17 age-group, 1998-99 (%)</td>
<td>93</td>
<td>78</td>
<td>66</td>
<td>1</td>
</tr>
<tr>
<td>Female labor-force participation rate, 1991 (%)</td>
<td>35</td>
<td>11</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>Proportion of women aged 20-24 married before age 18, 1998-99 (%)</td>
<td>11</td>
<td>42</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>Proportion of recent births preceded by antenatal check-up, 1998-99 (%)</td>
<td>87</td>
<td>58</td>
<td>65</td>
<td>6</td>
</tr>
<tr>
<td>Proportion of adult women aged 15-49, 1998-99, who are:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposed to any media (%)</td>
<td>84</td>
<td>67</td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td>Involved in decisions about own health-care (%)</td>
<td>81</td>
<td>67</td>
<td>52</td>
<td>1</td>
</tr>
<tr>
<td>Using any contraceptive method (%)</td>
<td>68</td>
<td>62</td>
<td>48</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>93</td>
<td>72</td>
<td>62</td>
<td>1</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>Aware of oral rehydration therapy (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having independent access to money (%)</td>
<td>80</td>
<td>71</td>
<td>60</td>
<td>1</td>
</tr>
</tbody>
</table>

Mahila Mandals and Yuvak Mandals are village-level organizations of women and youth respectively. Today, a majority of villages in Himachal Pradesh has one or both of these organizations. Beginning in the early 1980s, the state government encouraged the formation of such groups in order to facilitate the transmission of information regarding development programs. The creation of such public secular spaces with direct support from and linkages to the state has assisted in the breakdown of traditional caste boundaries. Over time, these village organizations have moved beyond their stipulated role as conduits of information and have emerged as active participants in local development. Often, Mahila Mandals and Yuvak Mandals have initiated forest protection at the local level and have acted as rallying points for collective action. Mahila Mandals have proven to be a fertile ground for the emergence of women leadership at the village level, and in channeling the agency of women all over Himachal Pradesh(Gaul 2001, Berry 2003, Bingeman et. al. 2004, Mendhapurkar 2004). Simultaneously, high levels of political competition and responsive political parties have amplified this agency and helped to translate it into positive outcomes, whether related to health, education, or environment.
The schooling revolution and the state-assisted agency of women acting through Mahila Mandals together account for the superior performance of Himachal Pradesh on gender-related indicators of social development. Table 3.4 illustrates the spectacular comparative achievements of the state in this respect. High proportion of educated women make it easier for girls to continue education beyond what is common in most other states in India, leading to a higher proportion of women in the labor-force, that results in increasing the age of marriage among women, and lowering the fertility rate. This virtuous spiral has many spin-offs, such as lower rates of infant mortality and female infanticide, better sex ratios, women’s participation in health care decisions, and higher legitimacy to the participation of women in the public sphere. But the most important consequence of channeling women’s agency through Mahila Mandals and improved women’s education has been their increasing participation in democratic politics. If public action has contributed to the success of state-led development in Himachal Pradesh, then women are its leading edge.

Summary: The complimentary role of the state

Exploring the direct and indirect role of the state in accounting for the changes in forest cover in Himachal Pradesh necessitates a close look its spectacular performance as the prime interlocutor of development since 1971, and at the patterns of party politics and democratic competition over the last three decades. Both of these interlinked processes have unleashed social forces that have led to wider participation of citizens –
men and women – in democratic politics and local collective action, often with a direct bearing on the state of forests. Directly, the state has undertaken massive afforestation on public lands and has encouraged the development of an environmental sensibility in response to the growing importance of tourism to Himachal’s economy. Indirectly, the state has assisted village-level groups of women and youth to undertake collective action for development, which has spilled over into the environmental realm. A high level of democratic competition has forced political parties to mobilize larger and larger sections of the population, in turn appealing to broader sets of issues. Discussing the common themes in the development success stories of Kerala and Himachal Pradesh, Jean Dreze and Amartya Sen point to three enabling factors: a strong state commitment to development, the agency of women, and a tradition of local cooperation (2002: 105). However, they overlook the degree to which the commitment of state to development is a consequence of the patterns of party competition and alternation in power, and the high rates of political participation that make the state responsive to demands from below.

### 3.3 Forest Cover Change: Hypotheses and data

What is the relationship between political competition and changes in forest cover? It is conceivable that the relationship is complex and multi-dimensional, operating across several scales, both spatial and temporal. Let's look at a specific case of a
village in Himachal Pradesh over the last 27 years to see if the experience provides some clues to understanding the process and the relationships.

Shanag is a mixed-caste village in Kullu district. Located north and above the town of Manali, it has felt the pressures emanating from democratic politics or economic development filtered through the urban lens of Manali. In 1984, a village youth group was started in Shanag by the department of youth and sports, with a grant to construct a volleyball court in the adjoining land to the primary school. Ratan Chand was the leader of the group. The boys started playing regularly, the volleyball court became a secular space for the interaction of young boys (and on occasion, girls). The youth group started meeting regularly, all members still in high school, and talk veered towards the rampant illegal logging in the neighboring forests, fuelled by demand from the nearby booming town of Manali, largely due to rising tourism. There was concern amongst the youth that there will be no timber left when their turn comes to build a house. In order to prevent any more illegal pilfering of timber, they set up a patrol to catch illegal loggers, capturing a few, scaring away many others, and became a source of inspiration for other villages with the same problem. Eventually, the group also received support from the police and district administration and the destruction of the forest was halted. However, the forest had been already heavily degraded, and most timber trees had been lost by the end of the 80s. The youth group constituted a forest regeneration program and set
up rules governing the access to forest, curtailed fuelwood extraction, and took up gap-filling plantations with the help of the forest department.

In 1992, Ratan Chand married high school graduate Vidya Devi from Banjar, 100 KM away, where she was heavily involved in the literacy movement, running night classes for women, and training women to teach other women in their villages. Vidya was also active in the street theatre group in the literacy movement. Vidya took up women literacy in Shanag, energizing the mahila mandal that was lying dormant, and brought women and women’s issues directly to discussion about the forest protection efforts.

In 1995, when Shanag panchayat (village elected government) was reserved for women, Vidya was persuaded to run for pradhan (president). Vidya Devi won the election, bringing her in contact with district politicians, and over a period of five years she also cultivates her contacts with the bureaucracy. Over time, Vidya Devi translated her participation in district politics into greater mobilization of women in village politics, first inside her panchayat, then neighboring panchayats. As women became more involved and active in panchayat activities as well as forest protection, the forest steadily regenerated over the same period.

The case study highlights the role of the wider socio-political context in the activation of local agency, whether of youth or women. The gradual mobilization of women for greater participation in politics also points to a positive role played by
democratic politics in influencing local efforts at forest protection. Most importantly, the story of Shanag highlights the scale at which local agency is active – at the village level – as a pointer to the analysis of forest cover change.

Existing research on changes in forest cover suffers from two main deficiencies. First, it neglects the larger political context within which these changes take place. Second, the research usually takes the unit of analysis as a country or sub-region within a country. Both of these shortcomings combine to obfuscate some significant drivers of change, most of which takes place through the actions of agents at the local level. A country or district-level analysis necessarily aggregates over a variety of outcomes within the units, and results in a mis-specification of the relevant scale for understanding the relationships. Omission of the political context removes the role of agency in driving changes in forests, focusing attention on the structural aspects alone. Taking the basic unit of forest governance as the unit of analysis and incorporation of the political context through careful specification and measurement should help to improve our understanding of the dynamics of changes in forest cover.

Following the discussion in the previous sections, it is clear that the process of political competition and social mobilization in Himachal Pradesh has resulted in a mobilized citizenry and a responsive state, and has led to the enabling of community agency. This is manifest in the improved development performance of the state as a whole, though the aggregates hide the variation across localities within the state.
Similarly, there is great variation in the extent of forest cover change in Himachal Pradesh, with some forests improving substantially over the last decade while others have deteriorated significantly, even as there has been an aggregate improvement in forest cover. It is possible that the differences in forest regeneration are related to the differences in management regimes – that forests under communal management have done better than forests under state management. However, the community agency enabled by an inclusive process of social mobilization and the responsiveness generated by political competition may have an independent effect on forest cover change, irrespective of the institutions for forest management. The role of responsive state machinery, as it interacts with communities mobilized to different degrees, would be crucial in determining the fate of forests in any given locality.

Besides forest management institutions, social mobilization, and responsive state machinery, analysis of the determinants of changes in forest cover must take into account several other factors, most notably characteristics of the users of a forests and role of markets. Heterogeneity of endowments and interests, levels of overall wealth and inequality, and education, play an important role in mediating the relationships between users and forests. Similarly, markets provide both opportunities and threats to the health of a forest by changing the incentives of users with respect to the exploitation of forest resources. The ensuing analysis controls for these (and other factors) while
exploring the role of community agency and state responsiveness in explaining changes in forest condition.

The state of Himachal Pradesh in India is ecologically highly diverse owing to distinct climatic and physiographic factors specific to the Himalayas, and significant variations in altitude. Forests in the state are critical to agriculture, the main occupation of the six million people who live in 17,000 villages in the state (DES 2003). They are governed through a number of institutional arrangements, most generally: private, communal, and state or publicly owned. 205 forests for data collection were selected by sampling across the altitudinal gradient in the state, equally from the lower hills (<900 meters above mean sea level), middle hills (between 900 and 1800 meters), and high hills (> 1800 meters). Within each altitude class, we selected cases to represent different institutional regimes, in proportion to their distribution across the three altitude classes. This strategy of case selection, while not random, ensures that all major types of forests and institutional regimes are represented in our sample, and that the cases are not picked on the basis of the value of the dependent variable: changes in forest conditions. The sampled forests are spread over 10 administrative districts (out of 12 in Himachal Pradesh) and cover 30 electoral districts (out of 63 pre-dominantly rural and a total of 68 districts). We should note that it is near impossible to identify a fully random sample for local institutional or forest types – not just in India, but for much of the developing world – owing to the non-existence of any comprehensive lists that contains the relevant
information. The questions we used during our fieldwork come from the data collection instruments developed by the International Forestry Resources and Institutions (IFRI) Program at Indiana University (Poteete and Ostrom 2004; the full set can be obtained from the Workshop in Political Theory and Policy Analysis at Indiana University).

All four field investigators who collected data underwent training related to the meaning of different questions, and the underlying institutional analysis framework. The unit of analysis for all variables is the management unit at the community level – a forest governed and regulated by a common set of rules. We collected data through individual and group interviews in the sampled villages. Responses to questions were triangulated by multiple interviews with different individuals and groups within a community. These groups and individuals included upper and lower caste men and women, decision-makers, and where relevant, guards and other office-holding individuals in the local community-management systems.

Table 3.5 provides information on how different variables have been operationalized in the ensuing analysis. Table 3.6 presents the descriptive statistics on the variables used in the statistical analysis to represent various causal mechanisms related to changes in forest condition. The dependent variable in our analysis is "Change in Forest Condition". It is measured by an index, the average of group responses on a five-point scale for changes in the condition of the forest from 1) upper caste men, 2) upper caste women, 3) lower caste men, 4) lower caste women, and 5) forest department
guards. Observations vary between 1 for forests whose condition has changed significantly for the worse to 3 for forests that have registered little change, and 5 for forests that have improved substantially over the past five years. A higher value of the dependent variable denotes an improvement in forest condition.

Table 3.5 Improvement in Forest Cover: Data Description

<table>
<thead>
<tr>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement in Forest Condition</td>
</tr>
<tr>
<td>Index measuring change in the condition of a forest over the last five years, ranging from 1 for “degraded significantly” to 5 for “improved significantly”, based on responses by five categories of individuals in the village (upper and lower caste men and women, and forest department guards).</td>
</tr>
<tr>
<td>State Responsiveness</td>
</tr>
<tr>
<td>Plantation Activity in Forest</td>
</tr>
<tr>
<td>Dummy variable, 1 = plantation activity carried out in the forest in the last ten years</td>
</tr>
<tr>
<td>Women's Literacy</td>
</tr>
<tr>
<td>Proportion of literate women (1 = less than 10%, 4 = more than 40%)</td>
</tr>
<tr>
<td>Presence of Village Organizations</td>
</tr>
<tr>
<td>Dummy variable, 1 = presence of non-forestry village organizations</td>
</tr>
<tr>
<td>Mean Democratic Participation</td>
</tr>
<tr>
<td>Average percent of votes polled in state assembly elections over the last seven elections</td>
</tr>
<tr>
<td>Democratic Participation 1998</td>
</tr>
<tr>
<td>Percent of votes polled in 1998 state assembly elections</td>
</tr>
<tr>
<td>Mean Victory Margin</td>
</tr>
<tr>
<td>Average margin of victory in state assembly elections over the last seven elections</td>
</tr>
<tr>
<td>Victory Margin 1998</td>
</tr>
<tr>
<td>Margin of victory in 1998 state assembly elections</td>
</tr>
<tr>
<td>Community Aspects</td>
</tr>
<tr>
<td>Forest Dependence</td>
</tr>
<tr>
<td>Proportion of households with less than 0.4 hectares of agricultural land (1 = less than 5%, 5 = more than 50%)</td>
</tr>
<tr>
<td>Income Inequality</td>
</tr>
<tr>
<td>Categorical Gini Index (1 = egalitarian, 3 = highly unequal)</td>
</tr>
<tr>
<td>Number of Days of Voluntary Labor</td>
</tr>
<tr>
<td>Person-days of labor contributed towards forest management in the last five years</td>
</tr>
<tr>
<td>College Graduates</td>
</tr>
<tr>
<td>Proportion of the village population educated till college (1= less than 5%, 3= more than 10%)</td>
</tr>
<tr>
<td><strong>Number of Cattle in Village</strong></td>
</tr>
<tr>
<td><strong>Log(Cattle Grazing in Forest)</strong></td>
</tr>
<tr>
<td><strong>No. of Months of Grazing by Migratory Herds</strong></td>
</tr>
</tbody>
</table>

**Institutional Features**

| **Communal Management** | Dummy variable, 1= management decisions partially or fully in hands of local users |
| **Fines as Principal Means of Enforcement** | Dummy variable, 1= income from fines is more than 50% of total revenues |
| **Conflict Resolution Mechanism** | Dummy variable; 1 if intra-village conflicts around forests have been resolved |
| **Number of External Users of Forest** | Number of right holders not residing in village |

**Market Penetration**

| **Sale of Fuelwood** | Dummy variable, 1= fuelwood harvested for sale in the market |
| **Sale of Fodder** | Percent households selling fodder |

**Biophysical Variables (Control)**

| **Forest Condition** | Index measuring total biomass in a forest on three dimensions, ranging from 1 for “very low” to 5 for “very high”, based on responses by six groups in the village (upper and lower caste men and women, forest department guards, and researchers). |
| **Area of Forest** | Total area of the forest in hectares |
| **Forest Vegetation Type** | Composition of forest in terms of tree species; 1= pure conifer, 2= mixed, 3= pure broadleaved |

Although we collected data on a number of different measures regarding the condition of local forests, respondents’ assessments of changes in forests they see daily and know intimately are more likely to be accurate than their assessments about condition of a local forest in terms of its productivity or biodiversity. While biological indicators of changes in forest conditions are likely to provide a better measurement of
changes in forest conditions, they require long-term data collection that has seldom been attempted in conjunction with data on socio-economic, demographic, and political variables, and is simply unavailable at present. We believe that respondents’ assessments of changes in forest condition are more reliable than such assessments of forest condition itself because of the inherent difficulties associated with comparing forests across ecological contexts and forest types. Indeed, even silviculturists do not have single measures to represent forest conditions or biodiversity that can be taken as appropriate bases for comparison across forest and ecological types.

Table 3.6 Improvement in Forest Cover: Data Summaries

<table>
<thead>
<tr>
<th>Variables</th>
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<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
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<tr>
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<td>0.53</td>
<td>0.49</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Women's Literacy</td>
<td>3.14</td>
<td>1.02</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Presence of Village Organizations</td>
<td>1.93</td>
<td>0.25</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Mean Democratic Participation</td>
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<td>4.46</td>
<td>55.2</td>
<td>75.8</td>
</tr>
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<td>Forest Dependence</td>
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<td>1.33</td>
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<td>Value 3</td>
<td>Value 4</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Log(Cattle Grazing in Forest)</td>
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<td><strong>Institutional Features</strong></td>
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<td>Communal Management</td>
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<td>Fines as Principal Means of Enforcement</td>
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<td>Conflict Resolution Mechanism</td>
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<td>Number of External Users of Forest</td>
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<td><strong>Market Penetration</strong></td>
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<tr>
<td>Sale of Fuelwood</td>
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<td>0.41</td>
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<td>2</td>
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<tr>
<td>Sale of Fodder</td>
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<td>90</td>
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<td><strong>Biophysical Variables (Control)</strong></td>
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<tr>
<td>Forest Condition</td>
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<td>5</td>
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<tr>
<td>Area of Forest</td>
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<td>405.2</td>
<td>2</td>
<td>5000</td>
</tr>
<tr>
<td>Forest Vegetation Type</td>
<td>1.93</td>
<td>0.74</td>
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<td>3</td>
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</table>

Our choice of independent variables in the table was shaped by the existing literature on the subject as well as factors that seem to be particularly relevant in the context of Himachal Pradesh. The specific operationalization of the variables we have chosen for the analysis reflect the contextual particularities of Himachal Pradesh as discussed in the previous section.

Measuring the impact of democratic politics and role of a responsive state

Democratic politics unleashes multiple impulses within society, and it is important to understand the multi-dimensionality in order to parse the potentially contradictory influences generated by democratic politics in society. Even as greater participation might lead to higher state responsiveness to demands from below in
conditions of high party competition, the nature of this responsiveness will depend upon the nature of the relationship between parties and voters. Whether parties choose to provide public or large-club goods in response to demands from below, or opt for the provision of private or narrow-club goods to smaller sections of the voters will determine the consequences for local collective action.

The simplest measure of the level of participation in democratic politics is the proportion of voter turnout in general elections. We measure this turnout at the level of the electoral district within which a forest is situated for the 1998 elections (“Democratic Participation 1998”). However, the effects of democratic participation are realized through sustained social and political mobilization, rather than turnout in any one election. Moreover, the effects would also be expected to operate in a diffuse fashion, through the changes in individual and group perceptions towards the forests and environment. In order to capture the long-term dynamic of sustained mobilization, the variable “Mean Democratic Participation” represents the mean voter turnout over the last six elections. In effect, this variable captures the effects of being located in different levels of mobilization over time. We expect the mean voter turnout to have a more substantial and significant effect than turnout in the most recent elections; both variables will have a positive relationship to changes in forest condition.

At the same time, in addition to making parties more responsive to citizens, it is possible that high competition at the electoral district level – in addition to levels of
democratic participation – has a negative influence on change in forest condition. It has been argued that the highly mobilized citizenry in Himachal Pradesh often forces state agencies to ease restrictions of forest use, leading to lax enforcement (Saberwal 1999). We measure the level of competition at the electoral district level through the margin of victory for the winning candidate, in order to test the direction of influence of close electoral contests. In the two-party situation such as Himachal Pradesh, it captures the degree of competitiveness in the district much better than other measures such as effective number of parties or candidates, which are more appropriate for the level of a legislature. “Victory Margin 1998” measures the absolute margin of victory in the 1998 assembly elections, and “Mean Victory Margin” represents the mean over the preceding six elections. Following the hypothesis that high competition would lead to a decrease in forest condition through lax enforcement, we expect margin of victory to have a positive relationship to the dependent variable – higher the margin of victory, lower the competitiveness of the election, higher the score of change in forest condition.

The dynamics of democratic politics play out at multiple scales. The effect of political mobilization and/or close electoral contests at the level of electoral district is only level of influence. At the higher level, at the level of the provincial legislature, the influence will operate through different pathways and causal mechanisms. In highly-competitive 2-party situations, the responsiveness of the state to demands from below will potentially take the form of an enabling factor for local agency. Whereas processes
at the electoral district level drive the mobilization of voters, the dynamics at the state level determine the manner in which the state responds to these demands generated through political competition.

One of the pathways for the extension of democratic politics and penetration of state into rural communities is represented by village organizations encouraged and supported through state policy. These are Mahila Mandals and Yuvak Mandals, which have allowed the agency of village groups to be channelized into cooperative efforts and collective action. It is our expectation that activities of such groups would be associated with an improvement in the condition of a forest. “Presence of Village Organizations” captures this information. In a similar vein, the agency of women has been positively associated with the educational levels. Given the high policy emphasis in Himachal Pradesh on women’s education, we hypothesize that a higher proportion of literate women – measured as “Women’s Literacy – at the village level will have a positive effect on change in forest condition. Needless to say, these two variables capture the dynamic interaction between community agency and a responsive state that enables such agency.

In addition to influencing forest condition indirectly, the state has also intervened directly in improving forest condition through a massive program of afforestation. “Plantation Activity in Forest” measures whether any such activity has taken place in the forest in the last ten years, and it is expected to have a positive relationship.
Institutions and institutional features: beyond state, private, and common

In this context of relatively high population density and competing uses, centrally administered approaches to conserve forests have witnessed only indifferent success, and attempts to incorporate communities in conservation have a long history. In consequence, a number of different institutional mechanisms to secure the formal participation of local residents are in evidence across the forested landscape in Himachal Pradesh. Such institutional arrangements include informal systems, cooperatives, corporate clan-owned forests, sacred forests, and comanaged forests. Through these arrangements, communities in Himachal govern the full range of different forest types found in the state; many forests contain high levels of biodiversity as our field surveys discovered. Further, classifications such as open access, private, community, and state ownership are too coarse grained to convey the variations in institutional arrangements at the community level because of the numerous within-community institutional differences. A finer-grained conceptual apparatus that allows analysis to highlight and incorporate the most important aspects of regulation is necessary to enable systematic analysis of the causal effects of institutional differences across forests.

Institutional factors, especially in the literature on common property but also more generally, have come to be viewed as extremely important in shaping access to forest resources and the nature of activities that occur in forests. They are therefore also very important in influencing forest conditions. In our analysis, we use several variables
to take different aspects of institutions into account. The most important distinction, as mentioned above, deals with the involvement of local users in management decisions regarding forest use. “Communal Management” is a dichotomous variable indicating if the local users are involved in forest management, and we expect forest under community management to perform better than forests under other management regimes.

In order to capture finer-grained institutional differences across communities, we analyze variations in mechanisms for enforcement and conflict resolution. “Number of External Users of Forest” measures the difficulty in enforcement of rules for a common-pool resource such as forest, especially in a mountainous terrain. External users are also not part of the group, so trust and reciprocity do not work as well to deter the external users, and mechanisms for punishment are severely limited. Therefore, a higher number of external users of the forest will translate into forest degradation over time.

“Fines” and “Conflict Resolution Mechanism” are dichotomous variables, indicating that the regulatory institution uses fines as the principal mechanism for enforcement, and whether explicit rules for resolution of conflicts exists within the community of forest users. It has been persuasively argued that graduated sanctions – instead of blunt instruments such as fines – are better mechanisms for enforcement, and we expect this variable to have a negative relationship. That is, the forests where fines are used as the principal mechanism for enforcement will perform poorly compared to
the rest. Endogenously evolved rules for conflict resolution have been shown to be superior in laboratory studies and field conditions, and we expect the presence of conflict resolution mechanisms to have a positive effect on changes in forest condition.

Characteristics of the users

Socio-political features of the users of a forest affect their ability to cooperate with each other in forest utilization, as also the dynamics of forest governance regimes (Kant 2000). In order to capture the diverse influences of these features, we use a series of variables representing poverty and subsistence dependence on forests, wealth and inequality, as well levels of cooperation and differentiation of interests within the community. “Number of Cattle in the Village” captures variations in overall wealth in a overwhelmingly agro-pastoral social context, while “Log of Cattle Grazing in the Forest” measures the impact of those cattle on the forest. Recent trends in Himachal Pradesh suggest that an increasing proportion of households are adopting stall-fed cattle, mostly of the hybrid varieties, and that the composition of the household herd shows an increasing proportion of hybrid cattle. These cattle are not grazed openly in the forest, compared to the traditional varieties. We expect the number of cattle indicating overall wealth to be positively related, and the grazing variable to be negatively related to change in forest condition. “Forest Dependence” is measured as the proportion of households owning less then 0.4 hectares of agricultural land, and captures the argument that greater overall poverty would be linked to high dependence on forest.
The relationship between poverty and dependence on the one hand and change in forest condition on the other is likely to be complex and contingent on the level of poverty. High dependence may have a negative effect, but a high proportion of poor households may also correspond to greater homogeneity of endowments and interests and be conducive to collective action. Given the context of Himachal Pradesh – high dependence, relatively egalitarian society – we expect the relationship to be positive. Low landholding in this context is a measure of dependence on forests, since small holders are less likely to meet their subsistence needs from private lands alone. The greater proportion of such holdings in a village adds up to a high level to total dependence on the forest. High levels of cooperation amongst community members are likely to reflect positively on forest-related outcomes, and “Number of Days of Voluntary Labor” is expected to be positively related to the dependent variable.

“Income Inequality” is a categorical variable indicating the distribution of income within the user community, measuring heterogeneity over and above the distribution of agricultural land indicated by “Forest Dependence”. It goes from 1 for egalitarian communities to 3 for highly unequal distribution of income. With the diversification of income and livelihood opportunities in Himachal Pradesh over the last two decades, it is common to find villages with relatively egalitarian distribution of land but with a skewed distribution of incomes. In keeping with the theoretical literature on the role of heterogeneity, we expect income inequality to be negatively associated with
changes in forest condition. “College Graduates” indicates the proportion of village population that is educated till college and also seeks to capture another dimension of differentiation within the community, corresponding to education levels. While overall literacy levels – captured by “Women’s Literacy” – are expected to help with improvement in forest cover, a high proportion of college graduates corresponds to a greater divergence of interests within the community, and expected to have the opposite effect.

Markets and forest cover change – beyond distance

The debate on the deforestation crisis is replete with references to the negative influence of market penetration on changes in forest condition. More recent research, however, suggests that while that may be true at higher geographical scales, the effects are far more ambiguous at the level of the forest as a management unit (Agrawal and Chhatre 2006, Tucker et. al. 2005). Market penetration is almost universally measured as distance to roads or markets, and there is cause to suspect that this indicator is inappropriate for two reasons. First, since the influence of the modern state also runs along roads or emanates from towns which coincide with markets, the two effects are likely to be confounded in situations characterized by a high level of both state and market penetration – a description that fits the situation in Himachal Pradesh. Second, markets also present opportunities that may serve to reduce the pressure on forests or
generate incentives for forest protection. Therefore, the effects of markets on the condition of forests are unlikely to be unilaterally negative.

We measure the influence of two emerging markets for forest products in Himachal Pradesh. With growing urbanization, there has been a rise in the demand for wood fuel that is largely met from local forests. “Sale of Fuelwood” is a dichotomous variable indicating whether wood is extracted from the forest by users for sale in local markets. Given the often illegal nature of this activity, it is difficult to capture a more fine-grained indicator for this process. Similarly, Himachal Pradesh has also witnessed a growing demand for green fodder, consequent to a rising proportion of stall-fed milch cows in the household cattle holdings. Since these animals are not grazed in the forest, and fodder supplies from private lands and local forests are often not sufficient for all households, this demand has been met by others with surplus fodder. “Sale of Fodder” measures the number of households in a village selling fodder in order to capture this variable. We expect the sale of fuelwood to have a negative effect on forests, given the illegal and extractive nature of the activity, controlling for other characteristics of the forest user community. On the other hand, production of fodder, particularly grass fodder, in a forest requires enclosure from grazing, which would have the indirect effect of aiding in forest regeneration. The presence of incentives from the sale of fodder is likely to induce users to initiate or enforce conservationist measures, leading to a positive effect on change in the condition of a forest.
Finally, we include four control variables in the analysis that are expected to have important causal influences on the dependent variable. "Forest Condition" measures the overall biological condition of the forest, approximating the total biomass contained within. It is measured by an index, an average of group responses for three dimensions of condition of the forest from 1) upper caste men, 2) upper caste women, 3) lower caste men, 4) lower caste women, 5) forest department guard, and 6) the investigators for each village. The three dimensions are stem density, crown cover, and under story, measured on a five point scale with 1 indicating very low, 3 indicating average for the region, and 5 indicating very high. All responses for a forest were averaged into a single measure to yield the Forest Condition Index, a continuous variable whose value varies between 1 for very bad forest condition to 5 for very good forest condition. The index correlates highly with all the component responses. We also collected forest plot (biological) data on number of trees and their diameter at breast height for a subset of 30 forests. The correlation between forest condition index based on community responses and actual stem density is 0.68. We therefore use the index based on community group responses for the condition of forests as a reasonable proxy variable to represent forest condition. We realize that using community perceptions as a proxy for forest condition introduces a measure of subjective error in our analysis. However, the index also includes the assessment of the investigators who had experience in collecting forest plot data and therefore were conversant with biological
measures. The Forest Condition index correlates highly with the assessment of the investigators \((r=0.80)\), increasing our confidence in the use of the index as a control variable. Needless to say, if resources had permitted, the collection of forest plot data for every forest would have improved both our analysis and the confidence in our findings.

We also use the area of the forest measured in hectares to control for issues of scale, although it might be unwarranted given the range of forest sizes in the sample (“Area of Forest”). Additionally, we also include a measure of grazing pressure from nomadic goat and sheep pastoralists, who have rights to graze in particular forests over which local community or forest department officials have little control, but the activity should have a significant impact on the condition of a forest. “Number of Months of Grazing by Migratory Herds” measures the number of months for which such herds have grazed in the forest. Finally, “Forest Vegetation Type” controls for the ecological differences between conifer and broad-leaved forests. A short description of all the variables and their summary statistics are provided in tables 3.5 and 3.6.

### 3.4 Forest Cover Change: Findings and analysis

We regressed “Change in Forest Condition” on the range of independent variables described above, representing the democratic participation and political competition, the role of state, socio-political features of the user community, indicators of market influence, and control variables. The details of the model and its coefficients
are presented in table 3.8. In model 1, we use mean voter turnout and mean margin of victory over several elections, compared to the same data for the 1998 elections in model 2. Overall, the models explain more than half the variation in the dependent variable, as indicated by statistics for R-Squared and Adjusted R-Squared. The diagnostics for the models indicate that there is very little cause for concern regarding model specification. The essential diagnostics for model 1 are depicted graphically in Table 3.7. The numbers for Variance Inflation Factors indicate there is very low multicollinearity. Breusch-Pagan’s test for heteroskedasticity is not significant, and Szroeter’s Rank Test for heteroskedasticity with a Bonferroni adjustment suggests that variance of the residuals might be monotonically related to the variable “College Graduates”. However, the p-value for the null hypothesis that College Graduates is not monotonically related to the error variance is not significant (p = 0.15).

Table 3.7 Regression Diagnostics

3.3a Histogram of Residuals*

3.3b Kernel Density of Residuals
There are two observations with high leverage, and one of these also has a relatively high (though within the conservative cut-off) value of Cook’s Distance and DFFITS, suggesting that this observation might be inducing a bias in the coefficient estimates. In order to correct for this possibility without excluding the observation from the analysis, we ran model 1 with the error variance estimator suggested by Davidson.
and MacKinnon using $u_j^2/(1 - h_{jj})^2$ as the observation’s variance estimate, where $h_{jj}$ is the diagonal element of the hat (projection) matrix or the observation’s leverage, thus reducing the influence of observations with high leverage. This estimator tends to produce better results when the model really is heteroskedastic, and produces confidence intervals that tend to be even more conservative than the more commonly used Huber-White Sandwich estimator. Column 4 of Table 3.8 provides evidence that the standard errors of all the variables, while increasing in some cases, did not change much with the alternate estimator of error variance, suggesting that the observation with high leverage and Cook’s distance is not biasing the coefficient estimates.

### Table 3.8 Regression Results: Change in Forest Condition

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Prob.</th>
<th>HC3</th>
<th>Model 2</th>
<th>Prob.</th>
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<td><strong>State Responsiveness</strong></td>
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<tr>
<td>Plantation Activity in Forest</td>
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<td>0.010</td>
<td>0.015</td>
<td>0.187**</td>
<td>0.033</td>
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<td>0.019</td>
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<td>Mean Democratic Participation</td>
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<td>Democratic Participation 1998</td>
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<td>Mean Victory Margin</td>
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<tr>
<td>Forest Dependence</td>
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<td>0.000</td>
<td>0.162***</td>
<td>0.000</td>
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<td>0.002</td>
<td>0.253***</td>
<td>0.000</td>
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<td>Days of Voluntary Labor</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.0005***</td>
<td>0.000</td>
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<td>College Graduates</td>
<td>-0.168***</td>
<td>0.004</td>
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<td>-0.147**</td>
<td>0.012</td>
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<td>Number of Cattle in Village</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.0005***</td>
<td>0.000</td>
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<td>Log(Cattle Grazing in Forest)</td>
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<td>0.000</td>
<td>0.000</td>
<td>-0.087***</td>
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<td>Grazing by Migratory Herds</td>
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<td>0.003</td>
<td>0.003</td>
<td>-0.109***</td>
<td>0.003</td>
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<td><strong>Institutional Features</strong></td>
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<td></td>
</tr>
<tr>
<td>Communal Management</td>
<td>0.254**</td>
<td>0.019</td>
<td>0.018</td>
<td>0.251**</td>
<td>0.022</td>
</tr>
<tr>
<td>Fines as Principal Means of Enforcement</td>
<td>-0.586***</td>
<td>0.000</td>
<td>0.000</td>
<td>-0.476***</td>
<td>0.002</td>
</tr>
<tr>
<td>Conflict Resolution Mechanism</td>
<td>0.741***</td>
<td>0.003</td>
<td>0.013</td>
<td>0.793***</td>
<td>0.002</td>
</tr>
</tbody>
</table>
Moving to the substantive results, the models suggest that the effect of being located in an electoral district with a high mean voter turnout is positive and significant on the change in forest condition. At the same time, voter turnout in the 1998 elections has a much smaller substantive effect, and more importantly, is not statistically significant at any level. This result bears out our hypotheses that sustained political mobilization is positively associated with forest cover change. The positive relationship is graphically displayed in Figure 3.2, showing the change in the predicted value of the dependent variable with changes in the Mean Democratic Participation variable. The coefficient for margin of victory – either averaged over several elections or for 1998 elections – is not significant. However, contrary to our expectation, it has a negative sign, indicating that being located in districts with higher margins of victory (corresponding to lower levels of competition) are associated with a decrease in forest condition. The hypothesis is based on qualitative evidence that constituents in a highly
competitive district are able to force political leaders to lean on the Forest Department and reduce the degree of enforcement. The results suggest, though weakly, that the converse might be true; mobilized communities might be able to prevent politicians from favoring a select few over the majority though lax enforcement. We also ran the models with similar indicators (percent margin instead of absolute margin of victory, absolute or effective number of candidates, both mean over several elections versus last elections), but the results are the same – positive but insignificant relationship between political competition and change in forest condition. This result suggests that at least in the case of Himachal Pradesh, closeness of elections might be a significant driver of change in forests, but in a direction opposite to the one hypothesized. However, the statistical analysis fails to provide a clear indication.
The role of state is clearly important in explaining changes in forest cover in Himachal Pradesh. All the relevant variables – plantation activity in forest, women’s literacy, and presence of village organizations – are positively and significantly related to the dependent variable, bearing out our hypotheses regarding these relationships. Forests under communal management do substantively and significantly better than those under other forms of management. Regulatory systems that use fines as the principal mechanism of enforcement (Fines) and high number of dispersed users (Number of External Users) have a negative impact on forest condition. At the same
time, forests are in better shape where local users have evolved community mechanisms for the resolution of conflicts. As hypothesized, heterogeneity of income and interests (represented by College Graduates) has a negative relationship to changes in forest condition. Overall wealth (Number of Cattle) and dependence on forests have a positive influence on forest condition. As expected, forests with a higher incidence of cattle grazing have changed for the worse. The role of markets is mixed and contingent on context. The sale of fuelwood is detrimental to forest condition, whereas the sale of fodder has a positive effect.

The analysis of data from 205 forests in Himachal Pradesh reveals that variables measuring the influence of democratic politics and direct and indirect role of state explain a substantial proportion of the variation in changes in the condition of local forests. While the analysis reaffirms the arguments in favor of communal tenure, the results also reveal the extent to which the success of community-based natural resource management policies is contingent upon a positive role for state actors. Even more importantly, the findings reveal a positive influence of democratic mobilization in Himachal Pradesh, suggesting that recent global trends towards democratization and decentralization might augur well for the world’s forests.
3.5 Conclusions: Democracy, Decentralization, and Environment

The aggregate increase in forest cover in Himachal Pradesh hides a great diversity of outcomes within the state. While the overall positive trend in social and environmental outcomes is driven by the diffuse process of democratic consolidation and successful delivery of public services by state agencies, the variation in local outcomes can only be understood in terms of the articulation of local communities with the larger political processes. This chapter has demonstrated that forests are significantly more likely to have regenerated in communities located in districts with high levels of political mobilization and democratic participation. And these are also the communities where other state interventions – forestry plantations, village organizations, and women’s literacy – have been more successful. Arguably, none of these interventions barring plantations have anything directly to do with forests or their management, but the diffuse role of the state can be detected in explaining the variation in forest outcomes.

Clearly, forest management is best left to the communities, who have been more successful in improving forest cover compared to state agencies. This finding validates the recent shift in policy in Himachal Pradesh – following the rest of the country – to decentralize management authority to communities. However, the communally managed forests only do better on average, again hiding variation within. To a large extent, successful community management requires overcoming hurdles to collective
action, and some communities have proved to be better at cooperation than others. If the policy of decentralizing management authority to communities is to succeed in regenerating and improving forests, it must contain elements that help local communities in overcoming the hurdles to collective action. Unfortunately, one of the possible hurdles, the subject of the next chapter, may just be democratic competition.
4. Competition and cooperation in decentralized forest management

4.1 Introduction

This chapter investigates the potential of decentralization policies in delivering their intended benefits in the context of competitive democratic politics. Competition between political parties has been associated with a range of socio-economic outcomes – good, bad and ugly – but its impact on the performance of decentralization policies is only beginning to be analyzed (Andersson et. al. 2004). Besides the advantages of efficiency, one of the chief normative justifications for decentralization in general is that it allows for improved responsiveness of leaders to constituents, along with better representation and accountability (Agrawal and Ribot 1999). Whereas most decentralization initiatives around the world involve devolution of powers and resources to lower levels of administration, the process has gone furthest in natural resource management. Decentralization policies in forests, fisheries and irrigation sectors, for example, have often transferred powers to new institutions at the village or community level. Even in India, where elected village councils (panchayats) – comprising a few villages – are the locus of most decentralization initiatives, decentralization of forest management through Joint Forest Management involves the
formation of community groups at an even lower level. Consequently, the success of
decentralization of natural resource management is incumbent on the ability of these
communities to cooperate for the common good, often overcoming conflictual social
relations and heterogeneity of endowments and interests.

Competitive democratic politics is known to produce divisive impulses within
society, exacerbated by social cleavages (Wilkinson 2004), making local cooperation
difficult. Social heterogeneity is often exploited by political parties to pit one group
against the others, and such processes will impinge negatively on local cooperation,
especially where communities are internally differentiated. Decentralized institutions for
natural resource management represent a valuable political resource and political
parties will stand to gain from the control of such institutions. This will tend to decrease
the autonomy of local institutions from larger democratic politics. On the other hand,
the virtues of political competition are also likely to provide local communities – and
sub-groups within – with resources to overcome the negative influences emanating from
democratic politics. A highly mobilized citizenry is more likely to hold its
representatives accountable, whether at the community or higher levels. Greater
political participation will help to cultivate a democratic ethic within the population at
large, encouraging the settlement of conflicts through negotiation and deliberation.
Traditions of cooperation and levels of inter-personal trust – whether customary or of
recent vintage – will enable local communities to overcome the obstacles to cooperation
presented by party competition. On balance, the question of whether democratic politics helps or hinders decentralized natural resource management is as much a theoretical question as an empirical one. Eventually, in order to assess the role of democratic politics in the success of decentralization policies, it is important to investigate both aspects of the question – the ways in which democratic politics hinders local cooperation, and the conditions under which it enables local communities to cooperate.

The next section provides a brief description of the evolution of democratic politics in Himachal Pradesh, detailing the linkages between mobilization by and competition between political parties to caste and class divisions in Himachali society. It lays out the political process through which social cleavages emerge and become politically salient, and its effects at the community level. Section III describes the dataset and the operationalization of variables testing various hypotheses in the social and political context of Himachal Pradesh. Section IV presents the findings from statistical analysis. We report that high levels of political mobilization and competition are associated with lower cooperation, and the dominance of one party at the local level and the presence of politically salient heterogeneity also have a negative relationship with the level of cooperation. On the positive side, the presence of other elected institutions, higher total membership of a cooperative and better representation of internal heterogeneity are associated with higher levels of local cooperation. A final section reflects on the larger implications of the findings.
4.2 Patterns of competition and cooperation

Tenancy reforms and the foundation of political competition

The first democratic elections to the state legislature were held in 1967, before Himachal Pradesh became a full state in the Indian Union. Congress dominated the party system with 42% of the vote and almost 60% of the seats, with 38% going to independent candidates. The second largest party – Jansangh – received only 13% of the votes, with no other party getting more than 3%. The situation did not change much in the next elections in 1972, the first after full statehood. However, the seeds for challenging the domination of the Congress in later elections were sown in this early period, between 1967-75. The Communist Party of India (CPI) began mobilizing tenants in several districts of Himachal Pradesh in 1968, demanding security of tenure, higher shares of produce, and equal rights of access to state forests.\(^1\) By 1971, the movement had gathered sufficient momentum to challenge Congress hegemony in rural areas, maintained largely through the persuasive and coercive abilities of village elites. The major demands of the movement had shifted from security of tenure to full ownership of lands cultivated by tenants under the “land to the tiller” slogan. While CPI remained

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\(^1\) Much of the following account has been put together from interviews and discussions with CPI, Congress, and BJP leaders who were active during the period. The main sources include Kameshwar Pandit (General Secretary, CPI, Himachal Pradesh), Ajit Kumar (Vice-President, Land Development Bank, HP), and Kulbhushan Upmanyu (Himalaya Bachao Samiti, HP). Secondary and archival sources include pamphlets distributed by Kisan Sabha and Laghu Zamindar Sangh, including weekly publications *Himachal Janta* and *Him Pradeep* in personal collections.
committed to its land reforms agenda, the movement had gathered diverse elements not
directly linked to the Communist Party; it was coordinated by the Kisan Sabha, only
loosely affiliated to the Communist Party of India. Most importantly, the movement
now incorporated many Congress supporters.

In 1972, a few months before the general elections, Congress chief minister Y.S.
Parmar relented to the growing pressure from below and announced the party’s support
to the transfer of ownership of lands under long-term tenancy arrangements. This shift
allowed the Congress to retain power at the state level, but forced it to follow-through
on the program of tenancy reforms. After the 1972 elections, as it became clear that some
version of tenancy reforms were inevitable, landowners likely to lose out in such an
outcome were mobilized to oppose such a move. Jansangh was the party traditionally
representing the landowners, though not their interests in land. Jansangh supporters
mainly comprised upper castes, which also happened to be the landowners in Himachal
Pradesh as in other Indian states. Shanta Kumar, a young Jansangh leader from Kangra,
channeled the opposition of landowners to tenancy reforms through a front organization
of the party – Laghu Zamindar Sangh (Small Landowners Organization). Within two
years, Shanta Kumar had mobilized enough support to challenge the Congress’s rhetoric
of land reforms.

Jansangh had received barely 13% of the vote in 1967. After the Congress
incorporated the land reforms agenda into its manifesto in 1972, the vote share of
Jansangh went down to less than 10%. Jansangh sought to represent the upper castes (about 30% of the population) but not all of them were voting for Jansangh, most of it going to Congress and independents. Jansangh carried the burden of being the party of urban interests, besides the still relatively fresh stigma of being indirectly responsible for the assassination of Mahatma Gandhi. The opposition to tenancy reforms, spearheaded by Shanta Kumar, allowed Jansangh to win over rural constituencies without alienating its traditional urban support base. At the same time, the contradictions between tenancy reforms and landowning interests were leading to a decline in rural support for the Congress.

Shanta Kumar was able to reframe the debate on tenancy reforms in a way that moved it away from its relationship to caste. As mentioned earlier, almost all landowners who were threatened by the tenancy reforms were upper caste. On the other hand, the tenants themselves were a mixed bag; middle level castes dominated the mix, but a significant minority of tenants were also upper castes. Shanta Kumar moved the land reforms debate to a question of viability of holdings, arguing forcefully that if all tenants were given ownership of lands under tenancy, then many landowners would be reduced to penury. Earlier, in the late 1960s, when CPI initiated the tenant mobilization in Himachal Pradesh, their main argument was the loss of productivity and efficiency under the current system, and projected an image of the prosperous farmer framed against a national rhetoric of foodgrain self-sufficiency following the successive
droughts and a brief national emergency. Shanta Kumar turned it around by arguing that the tenancy reforms would produce poor farmers, characterizing the landowners as small holders in benevolent long-term relationships with their tenants, eager to contribute to national progress.

After the 1972 elections, the Congress backtracked on its promised tenancy reform legislation, sensing the increasing support for Shanta Kumar’s Laghu Zamindar Sangh. It presented a watered-down bill to the legislative assembly in August 1972, which set the ceiling on land holdings at 72 acres (approximately 28 hectares) and exempted lands under tree cover or tree crops from the ceiling. Even though the CPI had no seats in the legislative assembly, the Kisan Sabha mobilized tenants across the state to oppose the high ceiling, demanding that the land ceiling should be calculated after land under tenancy had been transferred to tenants. Needless to say, a higher ceiling on land ownership would have left much less land to be distributed amongst the tenants, defeating the logic of viable holdings. The tenant mobilization and its implications drove landowners to the fold of Laghu Zamindar Sabha, demanding a high ceiling. Even the Congress was split on the issue, and several prominent Congress leaders came out openly in November 1972 in support of a lower ceiling on land holdings.

A compromise land reforms legislation was passed early in 1973, providing for full transfer of ownership to tenants under long-term occupancy. Jansangh was able to force the Congress to include a provision that protected landowners from alienating
more than 50% of their lands subject to the ceiling restrictions. Over the next two years, as the tenancy reforms were implemented across the state, Jansangh consolidated its support among landowners through localized protests and legal challenges to land transfers in local courts, while the Congress worked to outflank the CPI in garnering the support of tenants by claiming exclusive credit for the reforms. National emergency was declared in June 1975, followed a few months later by the 20-Point Program of the Congress. At the national level, CPI joined hands with the Congress in support of the emergency and committed its cadres in implementing the 20-point program. After the emergency, when elections were held in 1977, the newly-formed Janata Party captured more than 50% of the vote in the state assembly elections, comprehensively defeating the Congress. While this trend was repeated across India, the performance of Janata party – dominated in Himachal Pradesh by Jansangh – only partly reflected the anti-Congress feeling driving the results in other states. In many ways, the outcome of the 1977 elections in Himachal Pradesh represented the culmination of the first phase in the evolution of the two-party system that characterizes the state today. This was the first time that Congress lost an election in the state, and marked the beginning of the era of frequent alternation in power. The end of first phase also marked the beginning of the two-party competition that took shape over the next several election cycles.
Vertical, horizontal, and differential mobilization

In “The Modernity of Tradition,” Lloyd Rudolph and Susan Hoeber Rudolph have suggested a taxonomy of varieties of political mobilization in India, characterizing each as phases in political development (1967: 24). They distinguish between vertical, horizontal, and differential mobilization in terms of the relationship between caste identities and party recruitment strategies. Vertical mobilization is the marshalling of political support by traditional notables in local societies that are organized hierarchically. Horizontal mobilization involves creating political identities across localities, often in opposition to hierarchical relationships within the locality. Horizontal mobilization inevitably challenges “vertical solidarities and structures of traditional authority” (1967: 25). These could be around caste, class, ethnic, or other dimensions, the argument being that such affinities around horizontal identities needs to be created by political actors through new organizations.

The first phase in the evolution of political competition in Himachal described in the previous section suggests a similar trajectory. Starting with a pattern of vertical mobilization controlled by the Congress Party through village notables and minor challenges to its electoral hegemony in 1967, the mobilization of tenants represented a direct confrontation with traditional structures of authority along caste lines. The Communist party was successful in creating a horizontal affiliation of tenants along class lines that cut across several castes. Included in the category of tenants were upper
castes such as Brahmins and Rajputs, as well as scheduled castes such as Chamars.

Dominated as the mix of tenants was by the ‘middle’ castes of Ghirth, Chaudhary, Bahti, and Sahni, mobilization for the common objective of land ownership ruptured the ligatures of custom and tradition that characterized local interactions between these castes.

The dialectical nature of the development of the horizontal mobilization of tenants must, however, be emphasized. The consolidation of horizontal solidarity amongst tenants and their subsequent recruitment by Congress was greatly spurred by the counter-mobilization of landowners by the Laghu Zamindar Sangh. It is also pertinent that the respective categories were organized through front organizations of the respective parties – Laghu Zamindar Sangh for Jansangh, Kisan Sabha for Communist Party of India – in order to diffuse the partisan character of these mobilization efforts and draw the relatively apolitical constituents to their folds. It was only during the elections in 1977 that the political identities of the leadership became fused. For example, throughout the campaign for the rights of landowners through 1972-77, Shanta Kumar remained the public face of the Laghu Zamindar Sangh, editing a weekly – Himpradeep – that served as its mouthpiece. Throughout the period, he was also a general secretary of the state Jansangh party, but emerged as a Jansangh leader only in 1976 while leading the opposition in Himachal Pradesh to the national emergency. Capitalizing on the political recruitment of rural constituencies, previously
unsympathetic to the Jansangh, he became the chief minister of Himachal Pradesh after the 1977 elections. Meanwhile, the former tenants had transformed themselves into owners through successful land reforms, and were far less sympathetic to the rallying cries of the Communist Party. While none of them supported the Jansangh in the 1977 elections, their sympathies were divided between the Congress and a range of independents along a range of appeals to aspects of caste, class, and region.

The rise of the Other Backward Castes

Differential mobilization involves direct appeals by political parties directed towards communities internally differentiated internally along lines of class or interest (Rudolph and Rudolph 1967: 26). Parties may appeal to voters directly as individuals or indirectly through associations of interest to which they belong. The pattern of political recruitment and mobilization in Himachal Pradesh since 1980 resembles such a description. Two aspects of post-1980 pattern are noteworthy. First, the former tenants experienced a dramatic rise in their social status and economic power but lost all affinity to the category of tenant. They were ripe for further political recruitment. Second, successful interventions in economic and social development, in addition to land reforms, led to differentiation of income and interests within previously homogenous communities along such diverse dimensions as age, income, gender, and education, making voters accessible to a diverse range of direct party appeals. Let us examine each of these in turn.
The decades of 1980s and 1990s witnessed the rise of the political power in Himachal Pradesh of what are referred in political lexicon as “Other Backward Castes.”

As mentioned earlier, these were traditionally agriculturalist castes located in the middle of the caste hierarchy. These castes formed a majority of the tenants in the state. It is difficult to determine a precise estimate of the proportion of OBCs in the electorate, mostly for two reasons. One, it is not a census category, like scheduled castes and scheduled tribes, so no official periodic assessments are available. But the same is true for high castes, for which there are fairly precise estimates available and accepted as correct by all actors. Two, OBC is a politically created, politically sensitive, and charged category. There are groups that want to be OBC, and others who are clearly not ‘backward’ but claim to be historically OBC-like. In the absence of a caste census, there is no way to assess how many groups are or potentially belong to OBCs. Then the list has been growing over the years, as successive governments have added new caste groups to the list of official OBCs. Given the politics surrounding OBC status, suffice it to say that OBCs constitute a large enough proportion of the electorate to make a big difference if they could be captured as a vote bank. Current estimates for Himachal range between 25% and 45% at the extremes. Even at a conservative estimate of 25% of the population, the power of OBCs lies less in the numbers itself and more in the fact that they constitute an unattached vote that can be wooed and recruited with the right inducements.
Surprisingly, there is no horizontal organization in Himachal that has ever represented the interests of these castes with any degree of mobilizational success. During the mobilization for tenancy reforms, they were subsumed under the category of ‘tenant’ along with members from many other caste groups. During the build-up to provincial elections in 1982, the Bharatiya Janata Party – rising from the ruins of the Janata Party debacle nationally – made explicit overtures to this group of voters not tethered to any political party or horizontal association. BJP was keen to jettison the baggage from its days as the Jansangh, and its impression of being a party of upper castes. Moving to a rhetoric of development and a criticism of Congress as corrupt, the BJP successfully recruited supporters from this group of former tenants. Although the BJP lost the elections to Congress in 1982, it garnered an impressive 35% of the vote, suggesting that it had persuaded a large number of new voters to join its fold.

Throughout the 80s, both Congress and BJP made direct appeals designed to attract new voters, mainly by moving away from caste-based mobilization towards a platform of development at the state level. However, both parties – as seen in the 1985 and 1990 elections – sought the unorganized OBC vote by fielding candidates from these castes. The competition between the two parties in demonstrating support for the OBCs allowed the emergence of an OBC leadership at the state level and served to entrench their electoral power. In the process, even without horizontal mobilization, members of a diverse and previously disparate group of castes became consolidated into a new
political category of OBCs. Over time, members of these castes did join horizontal associations (potato farmers, horticulturists), but never ones organized around their caste status.

No matter what, even at 25%, OBCs are a big enough vote bank to change the result of an election, and force political parties to cater to their demands. In the absence of a clearly organized social organization representing them, they are literally free to make demands, and local OBC leaders are free to join any party and make their own demands, etc. This fluidity, in combination with their large numbers, is very conducive to the provision of public goods to get their support, and very difficult to tackle with private goods. The best (and evident) strategy of political parties has been to recruit OBC leaders at all levels – village onwards and upwards – and hope they can represent the OBCs or channel goods to them.

Social development and political mobilization

This pattern of competition between political parties, whereby new categories of voters became steadily available for recruitment by either party, co-evolved with the commitment of the state to economic and social development. Successful development interventions beginning in the 70s included massive state investment in infrastructure (roads, rural electrification, schools, public health) as well as new livelihoods opportunities (horticulture, tourism, handloom textiles, cash crops). The widespread (but varied) success of these initiatives, combined with the high degree of state
involvement in their implementation, created differentiation within groups along new lines. The rising level of literacy and education increased the exposure and receptiveness of citizens to party appeals, while participation in new horizontal organizations made it easier for parties to appeal to new voters. Mahila Mandals and Yuvak Mandals provided entry points to political entrepreneurs into sections of rural communities previously only marginally affected by mobilization efforts. The emergence of sub-regional interest-based associations – Lahual potato farmers association, Kullu valley apple growers association, to name a few – increased the points of contact between party leadership and possible vote banks. Simultaneously, it provided fertile ground for new leadership to emerge from these groups that could be recruited by the political parties. The meeting point between party leaders and local interest groups was always access to development opportunities, but without reference to caste. Thus ‘development’ in Himachal Pradesh became politicized, even as party politics itself became ‘developmentalized’.

The competition and rivalry between two Congress politicians from Kullu district in the 1970s is illustrative. Lal Chand Prarthi, MLA from Kullu constituency, was trying to attract government funds to support his contention that the development of horticulture was the best avenue for the development of Kullu district. Dilaram Shabab, MLA from Banjar constituency in the same district, was trying to focus the attention of the government to the potential of the development of fisheries. Each of these were vying for budget allocations in ways that would help their constituents but justifying
their strategies in the name of ‘development’ of Kullu district as a whole. In this manner, though the rationalizations can be traced back to individual strategies, the overall effect of the competition and rivalry was to focus attention on the best strategy for economic development. Once this pattern was set in the 70s, there was no going back. During competition for another election within the Banjar constituency in 2003, Sat Prakash Thakur, sitting MLA and Congress candidate, tried to divide the voters on caste lines, but failed to beat the ‘developmentalist’ candidate Karan Singh of BJP.

In 1967, only 42% of the women had turned out to vote. In the 1990 elections, 65% women cast their votes – an increase of more than 50% over four elections. The women who voted in 1990 were very different from the ones in 1967. They were often voting against the choices of men in their household, and sometimes they were voting as a group at the village level. After the reservation of one-third seats for women in local government in 1993, women entered the public sphere in large numbers to ‘talk’ politics, if not always to directly participate in it. Women talked about candidates – and not just for local government – to other women outside the household, and Mahila Mandals provided the space to deliberate on politics. As early as the 1993 state assembly elections, both the Congress and BJP realized the potential power of women voters, and directed appeals towards them.2 The spectacular success of Himachal Pradesh in child

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2 The author participated in the organization of a state-level conference of Mahila Mandals in June 1999, that included five zonal consultations of Mahila Mandal representatives to deliberate on issues relating to
immunization (83% in 1999) and girl enrollment in schools (96% in 1999) is largely driven by the women’s constituency.

There are several examples of the process through which democratic politics and party competition has assisted in the inclusion of women in politics. Meera Sharma, a young and dynamic leader of a mahila mandal in the village of Thalli in Mandi district, became involved in forest protection in her own village through the Social Forestry program. Over the 1990s, Meera rose to the leadership of the informally-federated group of mahila mandals in Karsog constituency, making demands on behalf of women and in support of mahila mandal forest protection activities. In 2000, Meera was elected to the district government, giving her greater voice and visibility in the political sphere, and providing a conduit for the voice of women voters to political parties. In a similar vein, Jasso Devi in Janjheli constituency also climbed up the ladder of political office through pradhan of her panchayat to a leadership position in the district Congress party over the decade of the 1990s. Although Jasso Devi lost the election to the district government in 2000, her role as the contact for mahila mandals seeking to make demands to politicians remained intact.
Landlessness and Scheduled Castes in Himachal Politics

After successful land reforms, the landholding pattern in Himachal Pradesh is very egalitarian, with a very low incidence of absolute landlessness in rural areas. Only 8% of the operational agricultural holdings in 2003 were more than 10 hectares, with only 9% less than half a hectare. Half are between one and four hectares. During the tenancy reform movement in the 1970s, CPI built a broad coalition of social groups by incorporating demands for land redistribution in favor of the landless. These were the scheduled castes that traditionally did not practice agriculture but performed a variety of services for the agricultural and landowning castes. These comprised about a quarter of the population and represented a huge constituency for mobilization. During the tenants movement, with the thrust on food production and national progress, members of the scheduled castes were included in the category of those whose social opportunities were restricted by the landowning elite. The underlying assumption was that once these castes gained access to land, they would participate fully in the development of the state and partake of its benefits. This assumption has not been borne out in practice.

The initial thrust in the implementation of land reforms was on the transfer of ownership to tenants. Subsequently, between 1976 and 1985, land was distributed to landless scheduled caste families. The state promised a minimum of 0.4 hectares (one acre) to every family that did not own land, and largely followed through on this
promise. But two main factors (besides a few others) prevented the scheduled castes from reaping the rewards of private ownership of land. First, agricultural land is scarce in a mountainous state like Himachal Pradesh. Even today, after all possible land has been brought under the plough, the net cropped area is a mere 15% of the total. There was virtually no culturable land left for redistribution after the tenants had taken possession of their holdings. It had to come from degraded forests and village commons such as pastures. Needless to say, these lands were unsuitable and unproductive for agriculture, and certainly unviable as small holdings. Further, the investments in land improvement – terracing, clearing, bunding – was beyond the financial capacity of almost all but a few of the scheduled caste families. In the absence of such investment, cultivation on sloping land lead to erosion and rapid loss of productivity, rendering the holdings even less viable. Second, the scheduled castes were not agriculturists. In the mountain situation, where agricultural land is scarce and farming has traditionally been augmented by complimentary livelihood strategies such as pastoralism, the scheduled castes did not have the requisite skills and social networks to make a living from the new lands. Lacking capital and skills, these lands have slowly passed out of their hands without contributing to either their social status or economic situation, in contrast to the former tenants who have thrived after the land reforms.

Similar to the OBCs, the scheduled castes are not represented as scheduled castes by any horizontal organization or political party. Their political leverage is further
compromised by the fact that they have for long been considered a vote bank of the Congress party. They voted for the Congress during the initial phase when village elites told them to do so. During the horizontal mobilization for land reforms, they voted for the Congress because the Congress promised to give them land. But most importantly, during the later phase of differential mobilization, the scheduled castes seem to have lost the prerogative of making claims for themselves within the larger polity and society. At the societal level, they face the charge of failing to capitalize on the land that was distributed to them. After seeming to fritter away the gift of land, there is scant social patience amongst the others for serious consideration of status of the scheduled castes. At the village level, the social barriers for them were never really broken as they were for the OBCs. Without the economic power to back their claims in local politics, scheduled castes have remained at the periphery. At worst, the OBCs and upper castes have often collaborated to prevent access to land for the scheduled castes. During the 80s, after the former tenants had consolidated their social and political position, the upper castes and OBCs in a village would often invite the Forest Department to plant trees on village commons, in order to prevent their redistribution to the scheduled castes.

Bagotla forest cooperative in Kangra district formally invited the forest department to plant trees on lands they were managing as a cooperative in 1982. About 30% of the land under their management was classified as village commons and thus
was eligible for redistribution. The rest was classified as forest land. In order to protect this 30%, plantation was carried out over the next 3-4 years, and the area was fenced off in order to prevent the land from being given away to about 15 families. In interviews, the secretary (and his father, who was secretary then) explained that the number itself was not important and the 15 families would have taken less than a third of the commons. But the fear was that this would open the floodgates, and it would be difficult to prevent the more powerful people in the village from grabbing more land, especially by classifying their sons and daughters as land less.

Saned village in Chamba district did the same. Bagotla at least had a formal management system with responsibility for the land under question, and they had a right to ask the forest department to make improvement activities in the forest. Saned did not have any formal forest management system, only a loose understanding amongst residents and a patchwork of norms and expectations. Land was indeed redistributed from Saned commons during 1986-1990 to landless families within the village. But about 10 out of 25 families were left out of the process. In 1991, the revenue department allotted land to a family from another village, and this started the response against redistribution. According to villagers who were active then, they were fine with redistribution to their fellow villagers, and there was enough for everyone, but did not want outsiders to benefit from their forest. This is when the community leaders went
and met the range officer and asked him to plant trees on their commons, undertaking to protect it.

This phenomenon, widespread during the 80s, partly explains the success of forest plantations and the positive role played by local communities in forest regeneration. But the environmental benefits – of not only regenerating forests, but preventing these from being converted to agriculture in the first place – in many cases have been more than offset by the social costs. This is also not to imply that the scheduled castes have not benefited at all, only that efforts specifically directed at them have often had the opposite effect. They have benefited from the expansion of education and health services, and rising urbanization and state employment has presented them with further opportunities. More recently, the Bahujan Samaj Party – exclusively devoted to representing the scheduled castes – has also set up a state chapter in Himachal Pradesh, but their efforts have not borne fruit so far.

Political competition and local cooperation

Like all rural communities in mountain areas, Himachal Pradesh has a robust tradition of cooperation and collective action at the village level (Dreze and Sen 2002, Bingeman et. al. 2004). To a great extent, there was a distinct coercive element to the cooperation of the marginalized sections of society, particularly the scheduled castes (Singh 1998). But the high degree of mutual dependence has ensured that coercion by the elites was kept to a minimum. With development and increasing social opportunities
in the last three decades, the traditional bonds of kinship and community have loosened considerably. Much of the cooperation was sustained by a common dependence on natural resources, particularly forests. With rising incomes, this dependence for subsistence is also steadily declining, further impacting cooperative relationships. On the other hand, new forms of horizontal association and collective action have emerged – Mahila Mandals and Yuvak Mandals being prime examples – that have allowed the traditions of cooperation to be harnessed for non-traditional objectives. Rising incomes and declining forest dependence for subsistence is also being replaced by new relationships to the forest with the advent of market-based livelihoods (horticulture, collection of wild medicinal plants) and the rise of tourism.

New forms of cooperation unfailingly show the influence of participation in representative politics. All such organizations, whether mandated by state or not, usually have an elected executive committee that serves to represent the varied interests of the constituents. Even traditional systems, such as for the management of small irrigation systems, have often adopted the committee system of representation in order to accommodate growing differentiation amongst members. Where such an elected committee is mandated by law – as in the case of cooperative societies – members use their discretion to increase the number of committee members to allow for better representation.
These executive committees are the hunting grounds for political parties. Members elected to office, even for the post of treasurer of a Yuvak Mandal – signify a leadership status that parties are keen to recruit to their side. In other cases, status within the local party apparatus is linked to a person’s office in local organizations, and election to a committee results in higher status within the party. Conversely, persons with ‘connections’ to political parties are often elected to attract funds and other resources to the organization. The effect of political competition on local cooperation works through the linkages between local leaders (or members of the elected executive committee of some local organization) and party leadership at higher levels. Local elected offices, thus, become contested and politicized that is not quite compatible with policy conceptualizations of seamless cooperation amongst community members. However, the more such organizations there are in a given locality, the less pressure there is on any one organization’s election of office bearers. There is also ample anecdotal evidence that village organizations try to balance their committees by electing or appointing members of both the major political parties. It not only ensures that lines of access are open to both parties at all times – important because the parties have regularly alternated in power at the state level – but improves communication and deliberation between members as well.

Paror forest cooperative in Kangra district elected a BJP member to the executive for the first time in 1996, after being dominated by Congress. This was a conscious and
deliberate attempt to draw in membership that had drifted away. Another example comes from Khad soil conservation cooperative in Una district. It was not quite clearly affiliated to any party until the mid 80s, although individual members may have been leaning towards one or the other party. Ratan Chand Datta was elected Pradhan in 1986, and within a few years, he became a member and then local leader of the BJP. By 1989, when BJP came to power, Khad executive was dominated by BJP members. After 1993, they made a conscious attempt to elect Congress members, after Congress came back to power at the state level.

Since the rise of OBCs in the social and economic spheres in the mid-80s, there has been a corresponding rise in the number of OBC members elected to office in village organizations. However, their emergence has also been accompanied by a rush by both parties to recruit this new leadership as a conduit to the larger OBC population. The battle for the OBC vote is far from over, but OBC leaders at the village level have attracted a lot of attention to local organizations from political parties.

**4.3 Competition and Cooperation: Hypotheses and data**

We examined the relationships between local cooperation and democratic politics using a unique pooled cross-sectional time-series dataset of 65 cooperatives for forest management in Himachal Pradesh. The cooperatives are approximately equally divided between Forest Cooperatives and Soil Conservation Cooperatives, constituted under two different decentralization policies. Both involve pooling forests under various
legal categories (Private, Reserved, Demarcated, etc.) into one contiguous unit and handing over to a local cooperative constituted for its management. The cooperatives are governed by a common law (HP Cooperatives Act) that stipulates the basic structure of membership and governance.

Every member of a cooperative has to buy a share in the cooperative, and the members elect an executive committee every two years. If there are more candidates than seats, then secret ballot is used. Records of all elections as well as general house and executive committee must be kept as minutes. All cooperatives are required to maintain a bank account with at least two signatories. Their operations are audited by a cooperatives inspector every year, and they have to prepare and submit annual progress reports. The cooperatives are free to decide how many members they want in their executive, and they can increase or decrease this number through putting a motion to a vote in the general assembly. The executive committee can meet as many times as it wants, but the general membership must meet at least once every year. The agenda for the general house meeting must be circulated in advance, and all major financial transactions must be shared in the general house meeting.

Rules for forest management are largely left to be decided by members of the cooperative, barring some important prohibitions such as the ban on harvesting green trees without consent of the Forest Department. The cooperatives are also required to maintain clearly-specified records of their transactions and submit an annual report to
the Department of Cooperatives, which also organizes the annual financial audit of the business conducted by every cooperative. These annual reports and financial audits form the basis of the information collected in the dataset. Variables related to democratic politics and political competition have been collected from published reports of the Election Commission of India. Variables related to political affiliation of members and leadership of the cooperatives over time have been collected through detailed interviews with the relevant actors in each cooperative. There are approximately 30 annual observations for each cooperative, adding up to a grand total of 1890 observations for the dataset. The 65 cooperatives are spread over 15 electoral districts, representing the full range of levels of political mobilization and competition in Himachal Pradesh.

Table 4.1 Data Description

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td></td>
</tr>
<tr>
<td>Cooperation</td>
<td>Three-year moving average of amount spent on maintenance, monitoring, and enforcement (at constant 1986-87 prices)</td>
</tr>
<tr>
<td><strong>Group characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Total Membership</td>
<td>Number of members of the cooperative</td>
</tr>
<tr>
<td>Number of landless households</td>
<td>Number of landless households in the cooperative</td>
</tr>
<tr>
<td>Number of large landholdings (&gt; 2 ha)</td>
<td>Number of members with landholdings greater than 2 hectares</td>
</tr>
<tr>
<td>Number of retail shops</td>
<td>Number of business outlets selling consumer goods</td>
</tr>
<tr>
<td>Number of cooperatives</td>
<td>Number of other cooperatives (non-forestry)</td>
</tr>
<tr>
<td><strong>Institutional features</strong></td>
<td></td>
</tr>
<tr>
<td>Number of elected Managing Committee members</td>
<td>Total number of members in the executive committee</td>
</tr>
<tr>
<td>Number of committee members belonging to Other Backward Castes</td>
<td>Number of OBC members in the executive committee</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Number of non-members using the forest</td>
<td>Approximate number of illegal users of the forest</td>
</tr>
<tr>
<td>Forest Cooperatives</td>
<td>Dummy variable, Forest Cooperatives = 1; Soil Conservation Cooperatives = 0</td>
</tr>
</tbody>
</table>

**Political influences**

<table>
<thead>
<tr>
<th>Percent votes polled in the last state assembly elections</th>
<th>Voter turnout as a proportion of total eligible voters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent margin of victory in the last state assembly elections</td>
<td>Proportion of votes differentiating the winning and second position candidate</td>
</tr>
<tr>
<td>Number of Committee members affiliated with Congress party</td>
<td>Number of executive committee members belonging to the Congress party</td>
</tr>
</tbody>
</table>

The dependent variable is “Cooperation” measured as the three-year moving average of the amount of money spent by a cooperative on institutional maintenance, forest management, and rule enforcement. It is measured in Indian Rupees and annual observations are weighted before generating the moving average by the Consumer Price Index for Rural and Agricultural Labor, with the index for 1986-87 = 100. In effect, the level of cooperation is measured at 1986-87 constant prices. It has been put together from the relevant entries in the annual audit reports of the respective cooperatives.

Given the common structure of membership and governance of the cooperatives, the amount of money spent on forest related activities provides the most meaningful measure of the level of cooperation in a given cooperative in any year. Since these are primarily constituted for forest management, this amount reflects the concordance with the primary objective of the cooperatives. Further, given the requirements of maintaining bank accounts, and regular interactions in institutionalized spaces, all the
cooperatives find it easiest to pool their resources in the form of cash contributions in order to accomplish their planned activities. Finally, the cooperatives department, partly through its historical role as promoting cooperatives as a debt-reduction strategy, also encourages the cooperatives to indulge in savings and credit activities, even if their primary objectives are forestry or other activities. Table 4.1 provides brief descriptions of these variables. Table 4.2 provides summary statistics for the variables used in the analysis. The moving averages smoothen the distribution of dependent variable within each cooperative. Most cooperatives show a trend of peaks of high levels of cooperation followed by several years of moderate levels. This is attributable to the lumpy nature of the public goods being provided through cooperation, such as fencing or other forest improvement activities. It would be futile to string out expenditure on fencing over several years. In practice, most cooperatives save up on contributions for a big expenditure, or conversely, lower the level the contributions after a big spell of expenditure. The moving averages help to spread the intermittent peaks of cooperation across adjoining years. The distribution of the dependent variable is depicted in Figure 4.1 as Box-and-Whisker plots for all the cooperatives. Each vertical box plot represents the variation in the level of cooperation for one cooperative.
Figure 4.1 Level of Cooperation – Moving Averages

Table 4.2 Data Summaries

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperation</td>
<td>2,957.96</td>
<td>4,131.11</td>
<td>0</td>
<td>36,897.84</td>
</tr>
<tr>
<td><strong>Group characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Membership</td>
<td>171.78</td>
<td>279.22</td>
<td>3</td>
<td>2500</td>
</tr>
<tr>
<td>Number of landless households</td>
<td>22.09</td>
<td>18.38</td>
<td>0</td>
<td>72</td>
</tr>
<tr>
<td>Number of large landholdings (&gt;2 ha)</td>
<td>43.86</td>
<td>24.50</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>Number of retail shops</td>
<td>23.24</td>
<td>57.93</td>
<td>0</td>
<td>500</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------</td>
<td>-------</td>
<td>---</td>
<td>-----</td>
</tr>
<tr>
<td>Number of cooperatives</td>
<td>1.93</td>
<td>1.88</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

**Institutional features**

| Number of elected Managing Committee members | 6.35  | 1.76  | 3 | 14  |
| Number of Committee members belonging to Other Backward Castes | 0.78  | 1.38  | 0 | 7   |
| Number of non-members using the forest | 65.49 | 79.89 | 0 | 425 |
| Forest Cooperatives | 0.519 | 0.499 | 0 | 1   |

**Political influences**

| Percent votes polled in the last state assembly elections | 68.30 | 8.39  | 37.93 | 83.5 |
| Percent margin of victory in the last state assembly elections | 13.48 | 11.33 | 0.036 | 64.98 |
| Number of Committee members affiliates with any Political Party | 3.59  | 2.28  | 0    | 12   |

Political mobilization is measured as the proportion of voters turning out to vote in the last election. It varies from 37% on one end to 83% at the other. Political competition is measured by the percent margin of victory in the last election, ranging from less than 5% of 1% (0.036%) on the lower end to more than 60% on the higher end. The values of both these variables remain constant for a few years across successive elections. For example, values for 1977 elections are used for observations covering the years 1975 to 1979, while the values for 1974 are covered by the 1972 election and values for 1980 are covered by the 1982 election. The explicit assumption is that mobilization in an election year represents a general level of latent mobilization over a longer period, at least representative enough to capture the effects of mobilization on local cooperation. In
the two-party situation characteristic of Himachal Pradesh, where the increase in mobilization from one election to the next is predominantly an effect of voter mobilization by either of the two major political parties, voter turnout captures an important dimension of political competition in the state, in addition to the closeness of a particular election, represented by the margin of victory. We expect higher political competition (high turnout and/or low margin) to be associated with lower cooperation.

This expectation is driven by the experience of the process of voter recruitment in Himachal Pradesh. In the competition between Congress’s Sat Prakash Thakur and BJP’s Karan Singh in Banjar constituency of Kullu district described earlier, both parties identified villages with unaffiliated and floating voters and targeted them through their networks. In the many villages of Raila panchayat, the effects of the competition between Thakur and Karan Singh was felt through the pressure from party affiliates in the villages themselves. In the build-up to the 2003 elections, social interactions within the villages of Raila panchayat became infused with a tension generated by the Congress-BJP rivalry at the constituency level. Meetings held to discuss the grazing management strategies in this predominantly sheep-rearing community were dominated by discussions about the benefits of one candidate over the other, as well as became the spaces for members of different parties to rally support from new voters. Pritam Singh, the panchayat pradhan, who usually moderated the discussions on grazing management strategies, became mired in controversy due to his affiliation with
the BJP, and as Congress members expressed suspicions about Pritam Singh’s ability to resolve outstanding grazing issues in an impartial manner. During discussions with villages, one could detect a slight disillusionment with the process and a feeling amongst graziers that they had been shortchanged due to the political rivalry between the two parties.

This is also evident from the contrasting experiences in two constituencies – Chintpurni constituency in Una district with a high voter turnout, and Sulah constituency in Kangra district with low turnout. A high turnout in Chintpurni is being driven by voter recruitment strategies involving raiding already organized groups within the villages, driven by the close competition between the main parties. In contrast, Sulah is relatively far less competitive, has changed hands less often, and does not witness the same level of close electoral contests. This translated into a lower drive to recruit additional voters on the part of the political parties, and thus, less pressure on village groups organized around some local activity.

The influence of political competition operating through heterogeneity is represented by three variables: “Executive Committee Members”, “OBC members” and “Congress Members”. “Executive Members” measures the total number of elected members in a cooperative’s executive. A higher number of members represents an effort to accommodate demands for representation, signifying representative and deliberative democratic practices at the cooperative level. Trippal forest cooperative increased the
size of its executive committee steadily over the last two decades, often in response to represent the growing differentiation of interests within its membership. A new member was added as recently as 2001, in order to accommodate the interests of dry fuelwood gatherers that they sell at the nearby railway station – mostly poor and low caste women. Although it is neither necessary nor always true that new interests must be represented by addition of new members to the executive committee, and often one member can serve the interests of more than one interest in society, the addition is seen as a clear signal to the members that their demand has been met. Needless to say, not every demand is met in this way, but to the extent it does, a high number of members in the executive committee represents a better representation of the variety of interests of the members. We expect the variable to have a positive association with the dependent variable.

“OBC Members” measures the number of elected members of the executive committee of a cooperative that belong to Other Backward Castes. A higher number of OBC members will attract more attention from representatives of both political parties keen to mobilize and recruit OBCs, negatively affecting the ability of group members to cooperate. Paisa forest cooperative in Jwalamukhi constituency is a case in point. Located in a constituency with steadily increasing competition between Congress and BJP, the high number and proportion of OBC members in the membership and executive of Paisa has attracted a lot of attention from both parties. The OBC members are being
recruited by parties, and the resultant pressures have led to conflicts between executive members, spilling over into the general membership and leading to bad management decisions. One battle took place over the appointment of a forest guard, and it was seen as a fight over allocation of patronage, and a contest between affiliates of the two parties. This experience is in contrast to Trippal mentioned earlier, where a high number of executive members did not translate into conflict, perhaps because there were far fewer OBC members.

“Congress Members” indicates the number of executive committee members that are affiliated with the Congress Party. Controlling for total number of members, a higher number of Congress supporters measures the dominance of the Congress party within the executive. Within the context of increasing competition between the two major parties at higher levels and history of Congress domination of cooperatives during the pre-1971 period, such domination of the cooperative by Congress members will negatively affect the level of cooperation. Congress members have long dominated Jalot forest cooperative, and its performance is quite poor even on the most generous terms. Though there are some BJP affiliates within its membership, they argue that the clique in control of the cooperative systematically excludes BJP members from being elected to the executive. Consequently, these members do not participate in the affairs of the cooperative to the same extent, and refrain from canceling their membership only
because of the transactions costs involved of demarcating their forest rights separate from the cooperative.

As suggested earlier, a higher number of local organizations with elected executive members will serve to disperse some of the interference emanating from political parties. Paisa forest cooperative has one other cooperative organization in the village – for distribution of agricultural inputs. In contrast, Gumber forest cooperative, located in the same electoral constituency, has seven other cooperatives. This multitude of local organizations leads to many more positions available for OBC leadership (and other social groups) to be represented, as well as be available for recruitment by political parties. The contrast in performance between Paisa (poor) and Gumber (excellent) can easily be attributed to this difference between the two cooperatives, especially since the social composition of the two villages is almost the same.

Variables related to group size and other characteristics of group members are important determinants of the level of cooperation within a group. “Total Membership” measures the number of members of a cooperative. Starting with a low base, membership in these cooperatives has steadily increased over the last 30 years. The average number of members in a cooperative was only 65 in 1972, rising to more than 200 in 2003. Only some of this increase can be attributed to the growth of population; it is also related to political mobilization and the general increase in levels of social and economic development. The relationship between group size and levels of cooperation
is, however, still being vigorously debated more than 40 years after Mancur Olson proposed that larger groups will find it difficult to cooperate. While the proposition is undoubtedly true for extremely large (negative) or small (positive) groups, the relationship is less clear for medium sized groups. Arun Agrawal (2000) has argued that in the case of natural resource management medium-sized groups are better than small groups, since they allow members to generate sufficient amount of investment from individual members (labor or cash contributions) to provide lumpy public goods like monitoring or rule enforcement. Agrawal’s cases of Van Panchayat are very similar to the cooperatives being analyzed here, and following that logic, we hypothesize that the relationship will be positive for the range of group sizes in our sample.

Following the observation, described in the previous section, that the presence of absolute landless families in a village often drove others to devote greater resources to forest protection, often inviting the Forest Department to plant trees in a show of commitment, we expect the number of absolutely landless families in a cooperative to be positively associated with cooperation. It is a counter-intuitive hypothesis; landlessness in most situations signifies economic (and associated) social inequality that would have a negative influence on cooperation. The value of the number of landless families in the sample ranges between 0 and 72, with 436 observations (23% of total number of observations) of no landless families. In the Himachal context, where there are very few absolute landless families, this variable represents a minority of the population. The
policy of land distribution from forests leads communities to protect their forest more fiercely in the presence of landless families. In an analogous fashion, where non-members use the forest under cooperative management without having a usufruct right, members of a cooperative will devote greater resources to enforcement. Thus, the variable measuring the number of non-members using the forest will have a positive relationship to cooperation. Data for this variable has been collected through discussions with the personnel in charge of enforcement within the cooperative.

Another theoretical argument concerns what Michael Taylor has called the K-group (Taylor 1987). It is argued that the presence of a subset of members that have the ability to provide a public good irrespective of the participation of the other members will assist the full group to cooperate in the production of public goods. In differentiating between heterogeneity of endowments and interests, Jean-Marie Baland and Jean-Phillippe Platteau also argue that the while the latter will curb cooperation, the former – heterogeneity of endowments – might encourage it (Baland and Platteau 1999). In a study of cooperation for irrigation management, Robert Wade found a similar pattern, whereby the presence of a few farmers with relatively large landholdings was associated with higher cooperation within the group (Wade 1988). Shahpur forest cooperative and Jarla soil conservation cooperative both have a core group of high-caste large landholders that acts as a stabilizing force in sustaining local cooperation. Although these landholding are not so large that the resultant inequality may hinder
intra-group cooperation or completely eliminate the dependence of these households on forest products, they are large enough to command local respect as well subsidize some collective costs that are beyond the means of the poorer members. Taking cue from this insight, the variable “Land Heterogeneity” measures the number of members with landholding above two hectares. The higher the number of such members, the more the group will cooperate. In our sample, similar to the number of landless families, this variable ranges from a minimum of zero to a maximum of 100, decreasing steadily over time from a mean of 62 members in 1972 to 41 in 2003. Finally, “Retail Shops” measures the number of establishments in the area covered by a cooperative that sell daily-use consumer goods. Controlling for total membership, large landowners, and number of landless families, a higher number of Retail Shops indicate a high number of members with steady cash incomes from employment in the public or private sectors, capturing the level of heterogeneity of interests amongst the members. Greater ability to spend, captured by high number of retail shops, in Himachal reflects a relatively high number of people who are in salaried jobs, mostly with the government services. Farmers, even those with good incomes, are not in a position to spend on a regular basis since their income comes in spurts decided by the agricultural cycles followed several months of no income. A high number of salaried people reflects, in turn, a high number of people who are highly educated, have been exposed to a number of different situations outside the village, and also that their interactions with the rest of the community are limited since
they most of their time in government offices. All of these lead to differentiation of interests amongst the members, even though their incomes may be the same. Following this logic, we expect the number of retail shops to be negatively associated with cooperation.

Finally, “Forest Cooperatives” is a dummy variable controlling for the differences between the two kinds of cooperatives. The descriptions and summary statistics for all variables used in the analysis are provided in Tables 4.1 and 4.2.

4.4 Competition and Cooperation: Findings and analysis

The multi-level structure of data requires special analysis that takes into account the dependencies between successive annual observations for the same cooperative. The first step in analysis of multi-level data is the partitioning of variance in the dependent variable. A One-Way Analysis of Variance (Table 4.3) reveals that two-thirds of the total variation in “Cooperation” is between cooperatives (Intraclass Correlation Coefficient = 0.671), suggesting that the modeling strategy should concentrate more on capturing the differences between cooperatives, and less on changes within the cooperatives over time. Figures 4.2 and 4.3 provide Longplot and a Spaghetti plot of cooperation over time. The Longplot connects the values of Cooperation over time for each of the cooperatives in the sample. The Spaghetti plot displays the linear trends in Cooperation over time for each cooperative. As can be seen from the figure, there is wide variation in the
performance of the cooperatives; the performance of a few has improved dramatically
over time, others have deteriorated significantly, while most show moderate levels of
increase or decrease in the levels of cooperation.

Table 4.3 Partitioning the Variance

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Prob &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between coopid</td>
<td>2.190e+10</td>
<td>64</td>
<td>3.422e+08</td>
<td>60.39</td>
<td>0.0000</td>
</tr>
<tr>
<td>Within coopid</td>
<td>1.034e+10</td>
<td>1825</td>
<td>5665912.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3.224e+10</td>
<td>1889</td>
<td>17066134</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Intraclass correlation  Asy. S.E.     [95% Conf. Interval]
0.67143               0.04096          0.59115     0.75170

Estimated SD of coopid effect 3402.671
Estimated SD within coopid 2380.318
Est. reliability of a coopid mean 0.98344 (evaluated at n=29.06)
In order to triangulate the results of the testing of hypotheses, as well as to eliminate certain confounding possibilities, we ran several types of models using the
same set of independent variables. The results for five model specifications are provided in Table 4.4. The choice of using random intercepts instead of fixed (within-group) effects was also driven by the result of the Hausman Specification Test, which provided strong evidence for rejecting the null hypothesis that the difference in coefficients between the fixed effects model and the random intercept model is not systematic (p < 0.000). The five models test and correct for possible violations of assumptions of the random intercept model and differ in the specification of the autocorrelation function, error variance estimation function, and correlation between covariates and the random intercept.

<table>
<thead>
<tr>
<th>Table 4.4 Regression Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td><strong>Group characteristics</strong></td>
</tr>
<tr>
<td><strong>Total Membership</strong></td>
</tr>
<tr>
<td>Model 1</td>
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<tr>
<td></td>
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<tr>
<td>Model 2</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Model 3</td>
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<tr>
<td></td>
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<td>Model 4</td>
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<tr>
<td>Model 5</td>
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<tr>
<td>Number of landless households</td>
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<td>Model 1</td>
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<td></td>
</tr>
<tr>
<td>Model 2</td>
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<td>Model 3</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Model 4</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Model 5</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Number of landholdings above 2 hectares</td>
</tr>
<tr>
<td>Model 1</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Model 2</td>
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<td></td>
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<tr>
<td>Model 3</td>
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<td></td>
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<tr>
<td>Model 4</td>
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<tr>
<td></td>
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<td>Model 5</td>
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Model 1 estimates the parameters with a first-order autoregressive (AR1) function for the dependence of within-group errors. An autocorrelation coefficient of 0.61 suggests that unit root is not a problem, further supported by an insignificant result for the Augmented Dickey-Fuller Test. Model 2 runs the same model (AR1) with robust standard errors using the Huber-White Sandwich estimator. This estimate reduces the
influence of observations with high leverage and reports standard errors for coefficients that are more conservative. These two models assume that the unobserved (and unobservable or latent) random intercepts are not systematically correlated with any of the covariates. Model 3 corrects for the possibility that the random intercepts are correlated to two of the most likely covariates – total membership and large landholders. This possibility is modeled by using the Hausman-Taylor estimator for error components that corrects for the endogeneity between these two covariates and the random intercept.

Figure 4.4 Distribution of Residuals by Cooperatives: Random Intercept with ARMA (2,2)
Given the earlier discussion regarding the lumpy nature of public goods provided through cooperation, it is possible that the moving average of the dependent variable does not adequately capture the data generating process over time. Model 4 uses a second-order autoregressive moving average (ARMA) function for the dependence of within-group errors. All the four models show some heteroskedasticity in the variance of the residuals, both with respect to the fitted values as well as across cooperatives. Model 5 corrects for this by modeling the error variance in Model 4 as a function of the percent votes polled in the last elections. We also tried several other covariates that appeared to be correlated to the error variance with similar results, but we are not reporting them to save space. The Likelihood Ratio test between Models 4 and 5 suggests that Model 5 is significantly better than Model 4. In fact, in sequence, every successive model reported here was significantly better than the previous one using the same criteria (p < 0.001 for all LR Chi² tests). We also tried to model the error variance as a function of the fitted values, but the estimation was not possible with the software R. There were a small number of negative fitted values that prevented the Information Matrix from being inverted.
Figures 4.4 and 4.5 display the distribution of errors from Models 4 and 5, grouped by cooperatives. Figures 4.6 displays the distribution of the random intercepts against quintiles of the standard normal distribution. As is apparent from Figure 4.5, although the within-group residuals are mostly centered around zero, there are a few cooperatives with very high positive residuals. This implies that certain observations are being heavily underpredicted, and a closer examination reveals that these positive residuals correspond to observations representing peaks of cooperation mentioned earlier. In other words, the models are unable to adequately predict a few observations that are an artifact of the lumpy nature of public goods being provided through
cooperation. Fitzmaurice et. al. have shown that the components of the vector of residuals in the analysis of multi-level data are correlated and do not necessarily have constant variance (2004: 238). Therefore, they suggest that standard residual diagnostics for examining homogeneity of the residual variance “should be avoided altogether”. They recommend a decomposition of the estimated residual covariance matrix using the Cholesky Factorization such that E = L’L, where E is the variance-covariance matrix of the residuals. The inverse of L can be used to transform the residuals as well as the covariates to look for unusual patterns and possible outliers (2004: 239). Unfortunately, applications for decomposition of matrices using the Cholesky Factorization are not presently available in both R and STATA. However, following the alternative advice of Fitzmaurice et. al. to look closely at the distribution of the random intercepts to make sure that the assumption of normality is not violated, Figure 4.6 shows that they are indeed normally distributed, with only one outlier in Model 5. We would like to draw attention instead to the coefficient estimates, which are remarkably stable across all the models, indicating that the relationships are robust and not driven by artifacts of model specification alone. However, given the complexities of multi-level statistical analysis, we shall refrain from treating the coefficients as absolute estimates of causal effects, but treat them as indicators of the range of influence on the level of cooperation (across the different models) for particular independent variables.
The coefficients for the six variables capturing the influence of democratic politics on local cooperation are significant and in the expected direction. In fact, the coefficients for voter turnout and victory margin are remarkably stable and consistently significant across all the five models. A movement across the inter-quartile range of voter turnout in the sample is associated with a predicted decrease in cooperation by about Rs. 390, or roughly 15% of the mean of cooperation for the sample. The corresponding effect for margin of victory is much lower; a movement across the inter-quartile range of margin of victory is associated with an increase of only Rs. 142. This result reflects the fact that political mobilization in Himachal Pradesh is less driven by close elections at the district level, and more by party mobilization strategies at the state
level. With frequent alternation in power, it is in the interest of both parties to maximize voter mobilization across all districts, with less attention to close contests in particular districts.

Before proceeding further in the interpretation of the results, it is important to emphasize that regression coefficients signify the average effect of one variable after controlling for all the other variables in a model. Therefore, it is quite possible to find a cooperative that is actually increasing its level of cooperation even with high levels of political competition at the electoral district. Gumber is perhaps such an example that would be good to provide. Results of parametric statistical analysis only indicate that if two cooperatives are exactly the same in every respect except the level of competition in the district they are located in, then their predicted level of cooperation would be different, and more or less according to the sign of the coefficient.

The variables representing pathways of the influence of democratic politics suggest that our hypotheses were on target. The negative effects of every additional OBC member or Congress affiliate in the executive committee of a cooperative are strong and significant. The effects for Congress members are stable across models, which is not true for OBC members. However, neither of these variations in coefficients across models are more than one standard deviation from any of the estimates, suggesting that the variations in absolute levels of the coefficients should perhaps be standardized for easier comparison. In any case, even with the slight variation in estimates, the results are
in the expected direction in all cases. Variables measuring local factors that might
ameliorate the negative influences of democratic politics at the electoral district level are
all positive and significant. A higher number of total elected members of the executive
committee is associated with higher cooperation; in fact, the positive effect of every
additional member is approximately equal to the negative effect of another Congress
member. As hypothesized, the presence of other local organizations with an elected
executive committee serves to dissipate the political interference from parties, indicated
by a positive relationship to cooperation.

Total membership is positively and significantly related to the level of
cooperation, and so is the number of landless households and large landowners. These
variables, though derived from existing theoretical arguments regarding group size and
heterogeneity, were operationalized specifically for the Himachal Pradesh social and
historical context. The qualitative observation that the presence of landless families
encourages other members to protect forests is borne out in the statistical analysis. In a
similar vein, illegal use of the forest by non-members encourages the devotion of greater
resources to enforcement, indicated by a positive sign for the number of non-members.
A higher number of large landholders (> 2 hectares in the Himachal context) assists in
overall cooperation, suggesting that a heterogeneity of endowments (within limits) is
good for cooperation. Number of retail shops, intended to capture heterogeneity of
interests, is negatively associated with cooperation, bearing out our initial hypothesis about the relationship.

In summary, the analysis of a longitudinal dataset of 65 cooperatives for forest management in Himachal Pradesh reveals the complex nature of the relationship between democratic politics and local cooperation. High level of political competition is associated with lower levels of local cooperation, and its influence is moderated by group heterogeneity. For two cooperatives that are similar in every respect but located in electoral districts with different levels of political competition, the cooperative located in the electoral district with higher level of political competition will be less successful in mounting local cooperation. Similarly, for two cooperatives with in the same electoral constituency, even with low competition, the one with a higher number of OBC members in its executive committee will find it harder to cooperate than the one with lower number of OBC members. However, heterogeneity itself is multi-dimensional, and while some aspects are associated with lower cooperation, others have a positive impact. The presence of politically salient heterogeneity – in the form of OBC members in Himachal Pradesh – and domination by one political party are negatively related to cooperation. However, on the positive front, heterogeneity of endowments assists in cooperation. Better representation within the community – measured as total number of elected members – and greater opportunities for practicing democratic politics at the
local level – represented by the number of local organizations – suggest that democracy also has a significant positive effect on local cooperation.

4.5 Conclusions: Competition and cooperation

The clearest conclusion from the foregoing analysis is that political competition has an overall negative impact on local cooperation for natural resource management, and this impact is stronger for heterogeneous communities. The findings also reveal a tension between democracy (represented by electoral competition) and decentralization. There is a renewed emphasis on both in current academic and policy debates, and more than 70 developing countries are simultaneously undergoing democratization and devolving power to communities over the management of natural resources. Literally, hundreds of policies in natural resource sectors are being implemented through community organizations and local-level institutions without an understanding of how democratic politics affects the ability of communities to cooperate for the provision of collective goods. Since both democracy and decentralization are normatively desirable social goals, more attention needs to be paid to their mutual contradictions and synergies. The mere fact of the promulgation of a decentralization policy cannot alone be sufficient guarantee of its operational success. The variation in a policy’s performance would be related to the levels of political competition and the degree of heterogeneity at the local level.
One of the most interesting findings for the literature on collective action relates to the role of heterogeneity. The aspects of heterogeneity that are associated with lower cooperation – OBC members, Congress members – owe their salience to the larger political context within which cooperatives have to function. Other aspects – landlessness, large landholdings – have a positive influence, again deriving their influence from the wider social and political processes. These contingencies in the relationship between heterogeneity and collective action might well explain the contrary findings in the literature (Baland and Platteau 1996, 1999, Varughese and Ostrom 1999). Most dimensions of heterogeneity considered in the literatures on political competition or collective action are taken from ascriptive indicators – caste, class, gender, ethnicity – that may have little or no relevance to the democratic politics that determines the pathways through which heterogeneity affects collective action.

The role of the state – so important in explaining the variation in changes in forest cover in Himachal Pradesh – needs to be brought into focus. The nature of state-society relationships and the extent to which society is ‘embedded’ and/or ‘autonomous’ from the state – in an inversion of Peter Evan’s formulation – might be the key to resolving the tension between democracy and decentralization. Several scholars have suggested that decentralization without sufficient autonomy to lower tiers is meaningless, and often only serves as a vehicle for extending political control or dispensing patronage. The cooperatives analyzed in this chapter are fairly autonomous,
but there is a high degree of state involvement in their functioning, bringing them in close contact with bureaucratic agencies and exposing them to political interference. The cooperatives are governed by the same legal and institutional infrastructure, and it is possible that there is not enough variation in the sample on autonomy from the state. The following chapter tests the hypotheses regarding the impact of political competition on local cooperation on a dataset with greater variation in operational autonomy from the state.
5. Political Competition and Local Autonomy in Cooperation

5.1 Introduction

Decentralization policies for natural resource management across the developing world in the late 20th century are best understood as located within the dominant ideological currents of neoliberalism and structural adjustment reforms. These inevitably involve a diminution of the role of state in the delivery of public services, leaning towards the market and community institutions to fill that gap. New policies, for example, of payments for ecosystem services seek to link the producers and consumers of such services through the creation of new markets, moving away from state-centric models of environmental protection (Pagiola et.al. 2005). Community-based natural resource management policies, whether for forests, fisheries, or irrigation, similarly envisage local communities protecting and managing resources with little or no interference from the state. Several initiatives have sought to combine the power of markets and community by instituting training and managerial support to communities to produce commodities for the market derived from raw materials harvested from communally-managed forests (Salafsky et al. 2002). Involvement of state agencies in community-level institutions is almost always portrayed as a negative and undesirable
influence, often ignoring the examples of positive complementarities between state and community (Tendler 1997). Even less attention is paid to the influence of democratic politics on the ability of communities to manage resources sustainably, especially in the context of the withdrawal of state from natural resource management.

This chapter extends the analysis of the influence of democratic politics on the ability of local communities to cooperate to include communities with different levels of involvement with and autonomy from the state. The recent analytical and policy trend towards emphasis on ‘community’ draws from the debate on complementarities between communities and state agencies, most notably from the literature on co-management. Breaking out of the horizontal-level intra-group analysis of cooperation, this body of research explores cross-scale linkages and comparative advantages of state agencies and local communities in provision of public or collective goods (Tendler 1997, Evans 1996, Agrawal and Chhatre (forthcoming)). These arguments also act as a prophylactic against romanticization of ‘community’ as the repository of knowledge and potential, bringing in the state in a supporting role. However, while the literature succeeds in countering the image of the state as predator, it does little to theorize the relationship between local communities and the state.¹ More generally, it fails to locate

¹ Peter Evans’ (1995, 1996) work on ‘embedded autonomy’ theorizes the relationship between state and society at the abstract level, without accounting for variation across localities. Patrick Heller (1996, 2000, 2005), in a similar manner, focuses on social mobilization at the macro level as his theoretical locus, ignoring the relationship between the locality and the state. Arun Agrawal (2005) explicitly theorizes this relationship
these local cooperative efforts within larger processes of economy and society. Specifically, the literature on state-society relationships ignores the linkages between voters and political parties and its possible effect on local cooperation.

Markets and states are often pitted against community, and examples of synergy or symbiosis are posed as exceptions. Samuel Bowles and Herbert Gintis have suggested a simple unified framework for exploring the nature of complementarities between states, markets, and communities. They explore specific mechanisms by which communities might be better placed at providing public or collective goods compared to states and markets (Bowles and Gintis 1998). They start with the question: “Why do communities persist despite their inability to exploit the efficiency-enhancing properties of markets and the advantages of universal enforcement of rules provided by states?”

Their formal model derives the properties of communities that explain their persistence. Therefore, “communities persist because they attenuate coordination failures not easily addressed by markets, states, and other competing institutions”, while also possibly obstructing efficiency-enhancing economic arrangements (Bowles and Gintis 1998: 5).

The structure of interactions between agents under the three broad institutional settings – states, markets, and communities – can be examined along two dimensions, represented by a 2X2 table (Table 5.1). Markets are institutions where interactions are in the context of decentralization – through the concepts of regulatory communities and governmentalized localities – but falls short of incorporating the effects of political competition.
ephemeral and anonymous, states are institutions where interactions are enduring but still anonymous, and communities are institutions where interactions are enduring and personal (there are no institutions, of course, in the ephemeral and personal cell).

**Table 5.1 Nature of Interactions**

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<tr>
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<th>Ephemeral</th>
<th>Enduring</th>
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<td><strong>Anonymous</strong></td>
<td><strong>Markets</strong></td>
<td><strong>States</strong></td>
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<tr>
<td><strong>Personal</strong></td>
<td><strong>None</strong></td>
<td><strong>Communities</strong></td>
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In situations where either ephemeral or anonymous interactions exacerbate coordination problems, communities will be better placed than markets and/or states. The model derives four attributes that favor communities in this role: 1) low cost of information about other agents; 2) frequent or long-lasting interactions; 3) non-random pairing of agents (there is a high probability of pairing two agents with high pro-social norms); and 4) limited in-migration or mobility (Bowles and Gintis 1998). For our purposes, successful communities might be those with an incentive to solve coordination problems more than others (such as reliance of irrigators on water, discussed in Baker 2005). On the policy side, following the classification of Bowles and Gintis (1998), one implication is that interventions that lower the costs of information for agents will enhance community capabilities. Where the interventions are enduring and/or personal, rather than ephemeral and/or anonymous, such interactions will be more rewarding and successful.
Notwithstanding the advantages of communities vis-à-vis the state in the provision of public or collective goods, two aspects of the relationship between local communities and the state will stand in tension, especially in developing countries. First, traditional communities are almost everywhere characterized by hierarchies and inequalities, and this internal heterogeneity is often the direct target of state policies through affirmative action. Even if there is no direct intervention to address inequalities, the ideological thrust of democracy is profoundly unequivocal – to provide an equality of voice and representation to all sections of society. Direct participation in democratic politics will certainly raise the awareness and consciousness of citizens and strain existing traditions of cooperation, assuming a reliance on a certain degree of vertical organization and coercion. Second, the thrust for economic development in poor agrarian societies, often though large-scale projects, generates its own dynamic that is often destructive of those elements of communities that contribute to its ability to cooperate. Democratic politics can provide communities and their members with ideological and material resources to overcome these tensions, and the success of many new decentralization policies for natural resource management depends on the extent to which local communities are able to navigate the minefield of democratic politics. This chapter examines the factors that reinforce the ability of communities to deal with democratic politics with differential levels of state involvement.
The next section provides a brief overview of the situation in Himachal Pradesh, both with respect to traditions of cooperation for natural resource management and their adaptation to the processes of economic development and political competition. Section two describes the dataset used for the analysis in this chapter. Following the suggestion that qualitative studies can increase analytical leverage by drawing on multiple observations within a case, the dataset comprises of four observations each drawn from qualitative case studies of 33 community systems of cooperation for forest management and irrigation. The expansion to irrigation systems and traditional forest management systems allows us to incorporate cases that have relatively low levels of state involvement (and higher levels of autonomy from state agencies) in their regular operational decision-making. Section three presents the results from logistic regression using graphical displays of the relationships. We find that political competition and politically salient heterogeneity are negatively associated with local cooperation. However, the presence of several factors – most prominently, better representation of internal heterogeneity and the presence of consensual mechanisms of decision-making – at the community level serves to mitigate this negative influence.

5.2 Traditional systems in transition: Community and resource management in Himachal Pradesh
The spectacular developmental performance of Himachal Pradesh is even more noteworthy when one takes into account the physical and social geography of the mountain region. Traditional Himalayan societies are characterized by dispersed autarchic communities heavily dependent on natural resources for livelihoods. Such communities are often relatively egalitarian compared to their counterparts in the plains, partly owing to the paucity of agricultural surplus that facilitates the emergence of a dominant elite. The relative social equality is also attributed to the high degree of mutual interdependence of community members, given the high costs of exit. These autonomous, cohesive, communities usually have high levels of cooperation between members for various aspects of subsistence livelihoods. At the same time, livelihoods are rarely drawn from a catchment area that can be circumscribed by any one community, thereby bringing different communities together and requiring cooperation and coordination across communities. Distant grazing pastures at the head of a side valley, for example, are shared between several villages, and it is common for one mountain stream to provide irrigation water for several downstream communities. Such interdependence calls for community institutions that regulate the interactions, not only between community members, but also between neighboring communities.

Kripal chand kuhl, a community-managed irrigation system more than 50 kilometers long, is an excellent example of such traditional institutions for the management of natural resources through local collective action. The kuhl is more than
300 years old and continues to provide irrigation water to 22 villages downstream of its headworks through an intricate system of water management and conflict resolution. The smooth running of the irrigation system is crucial to the success of agriculture in the command area, and the timing of water supply to different villages must match the planting schedules of all the villages for the irrigation to be fully effective. The feat is managed by a semi-formal system of village representatives to an executive that convenes every year in early summer to assess the need for repairs and work out water allocation matters in light of an estimate of total water available for the season. Since the system runs on water from snowmelt from the Dhauladhar mountain range in the inner Himalayas, there is relatively low variation from year to year. The major work relates to repairs to the waterworks at the head of the system for diverting the water of the Neugal river, and there is usually considerable damage that needs immediate attention. Most of the villages, especially those at the tail-end of the system, are too far to contribute labor for the repairs, and consequently, the representatives every year need to work out an acceptable division of the cost of repairs to be allocated to different villages.

The caste system has played a big role as the structural foundation of such institutional regulation of interactions between individuals and communities. While the caste system in Himachal Pradesh did not proscribe social interactions to the same extent as the system in the Gangetic plains of north India, access to resources and opportunities for social mobility was still circumscribed by the hierarchy of the caste
system. Historically, such societies have only been successfully penetrated by the state for extractive purposes, either for natural resources or for conscription. The colonial encounter reinforced many of the hierarchical aspects of the caste system by instituting a system of property rights in land and natural resources that favored the upper castes at the expense of the middle and lower castes. Prior to the British, the Sikh system of land revenue administration did not translate into ‘ownership’ of the land in any meaningful sense. There was no market in agricultural land and there were no legal instruments to enforce property. Upper castes had a clear claim over a share of the produce, the same as the king. The system of private property constituted by the British in the Punjab and the tenancy system based on it, whereby the main cultivating castes were denied ownership of land in the mid-nineteenth century, was a consequence of the British practice of following customary law and traditions in land administration. This turn towards a respect for custom itself was a consequence of the belief that the British had gone too far in the civilizing mission, and the Great Mutiny of 1857 was a backlash to British attempts at correcting social evils like Sati and untouchability (Cannadine 2001). Thus, when the British annexed the territories now comprising Himachal Pradesh in the mid-19th century, the existing caste-based access to resources was reinforced by the constitution of property rights in land.

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2 The process by which private property in land was established (and ways in which the new system was similar and different from the earlier one) is discussed in detail in Alam 2001, Saumarez Smith 1996, and Singh 1998.
This pattern of dispersed autonomous communities with unequal access to resources – largely a function of the mountain geography – made it even more difficult for the state to penetrate society in Himachal Pradesh. Pre-independence mobilization and participation in the independence movement was restricted to a few districts in the outer Himalayas bordering the plains. A Himachali political identity was an invention of the princes and elites in the late colonial period. Therefore, the task of penetrating society for development was accomplished after independence by the state, with a major role played by political parties after 1971. Horizontal mobilization around new identities after independence connected isolated communities to the political life of Himachal Pradesh, bringing a new level of political consciousness to dispersed individuals.

Inevitably, state penetration and mobilization around new horizontal identities created pressure within the localized systems of cooperation traditionally based on caste hierarchies. Direct state interventions have challenged many aspects of caste-based regulation of social interactions. Indirect pressures on traditional systems have been created through the process of social mobility and differentiation unleashed by development. This loss of ‘community’ has been felt most acutely in places where livelihoods are still dependent on successful cooperation of all community members. While the state has been able to penetrate rural society for efficient delivery of public services, there are many aspects of community life that are still outside the reach of the
state, and even the success of many state interventions is critically dependent on the
ability of community to retain a threshold degree of cooperation.

Jean Dreze and Amartya Sen list the high level of local cooperation in Himachal
Pradesh as one of three enabling factors that explain its success in development (Dreze
and Sen 2002: 105). However, they refrain from examining the contradiction inherent in
that statement: development through state interventions is inevitably in tension with
traditional systems of community cooperation based on caste hierarchies. Large-scale
development interventions, such as the building of a highway or the location of a
factory, are often destructive in their impact on local communities. How have
communities in Himachal Pradesh retained a high level of cooperation while also
absorbing the challenges to its hierarchical and unequal character? Again, patterns of
political mobilization and party competition help to understand this reconciliation of the
role of community and state in development.

The transition to a more horizontal and secular basis for local cooperation has
not gone smoothly in all communities. Needless to say, there is wide variation in the
ability of communities to continue to cooperate, just as there are variations in the levels
of political mobilization and state penetration across the state. Some aspects of the
political mobilization have served to disrupt traditional systems – and much of this is
welcome from the perspective of social equity – even as others have facilitated sub-
groups within communities to claim a better share of the resources. Participation in
democratic politics has often exposed isolated communities to wider discourses of citizenship and representation anchored in ideas of equality and equity. With the spread of education and the constitution of secular arenas for social interactions, development has provided communities with opportunities to transfer their experience of cooperation to the accomplishment of new tasks. In this respect, successful cooperation is a function of the ability of communities to harness their tradition of cooperation to new tasks such as, for example, the building of an additional classroom to the existing school, or the maintenance of a link road to the village.

Political competition has generated its own set of impulses in society, and its effect on the ability of local communities to continue a tradition of cooperation is perhaps mixed. Politically salient heterogeneity at the community level – represented by OBC members in Himachal Pradesh – has attracted attention from political parties that is likely to have had an overall negative impact on local cooperation. At the same time, following up from one of the findings in the previous chapter, communities have often attempted to balance the presence of different parties in their representative structures to reflect the competition between rival parties at the societal level. The alternation of the two parties in power at the state level has provided the spur to this process, whereby the occasional legislative majority of the BJP has encouraged communities to incorporate BJP members into its representative structure. For example, beneficiaries of the Dogul
kuhl included a BJP member for the first time in 1991, in explicit response to the BJP coming to power at the state level in 1990.

Beginning as most communities did with the dominance of Congress at the local level through village elites, the gradual evolution of the two-party system has been reflected in a better representation of political differentiation at the community level. This process of better representation has often been justified on grounds other than political differentiation or competition. The habitation pattern in most of Himachal Pradesh is such that different caste groups live in separate villages; the upper castes would have their own hamlet, separate and distant from the scheduled castes, and often the OBCs live in separate villages too. The incorporation of new members into the executive committee has been demanded (and accepted) within community cooperative systems on the basis of representation of villages rather than castes or political affiliation. The panchayat or the elected village council, which has a representative for every village in a panchayat, provides the template for such a model. In practice, the incorporation of new representatives often serves the function of diversifying the political profile of the executive committee. Gharoh forest cooperative changed the constitution of its executive committee regularly in response to opportunities presented by the external world of politics. Even the number of executive committee members changed erratically. There were seven in 1971, nine in 1981, seven again in 1991, and eight in 2001. These were elected by the general membership, and there were
discussions about which individuals would be good to have in the committee. Not all the reasons were overtly oriented towards party politics, but it was one of the main reasons.

The structure is taken from models of representative democracy, but the election of the actual representatives is only rarely based on open elections and secret ballots. Consensus is the norm when it comes to choosing representatives to executive bodies at the community level. It is a holdout of the traditional systems, and in spite of the example of panchayats with competitive elections and secret ballots, there are almost no instances of community systems of cooperation that have made the same transition. Representatives are chosen by consensus, and often, subgroups choose their own representatives. Thus, if living in the same village or before the shift to village-based representation, the OBC households would bargain or negotiate for a fixed number of representatives that they could nominate as a group. Sometimes, though certainly not common, the scheduled castes also have a representative chosen within the sub-group by consensus. Direct consociational democracy at the community level serves to accommodate the multiplicity of interests. Paruhal kuhl in Kangra district was managed as an informal system until 1987, when members decided to shift to a representative structure for the management. Initially, five members were chosen to transact the business of the kuhl, with an additional salaried water-master (who earlier used to be paid individually in a complex system of payment in grain and some cash). One of the
five members was a scheduled caste representative, specifically selected to include this

group in the representative structure.

However, sometimes the system breaks down. Representatives to an executive
can be chosen from sub-groups, but the leadership positions are hardly fungible enough
to be distributed equally. There is only one ‘President’ of the representative structure
(usually called Pradhan, loosely translated as Chief), and shifts in relative economic and
political power of different sub-groups within the community gives rise to rival claims
to the leadership position. Sometimes community members are able to arrive at
mutually acceptable mechanisms for sharing decision-making power. In Gumber forest
cooperative, for example, the Pradhan is selected alternately from two groups of villages
every three years. At other times, the challengers are placated with the creation of new
positions with specific powers within the existing structure. Occasionally, when
consensual mechanisms fail, there are direct contests between rival groups for
leadership positions. Empirical evidence suggests that such contests have a negative
impact on the ability of the group to cooperate in the future. This is especially true if the
rivalry falls along cleavages defined by party affiliation.

Paruhal kuhl is an excellent example for illustrating the role of breakdown of
consensus mechanisms. After moving to a formal system in 1987, Paruhal kuhl
continued to operate successfully, until there was a leadership contest that could not be
resolved satisfactorily. Initially, the OBC community wanted the post of the pradhan
(actually, one individual wanted it, and he mobilized his OBC colleagues to support him). He was accommodated by the creation of a new post of up-pradhan or vice president. But this was not entirely satisfactory, leading to a contest for the president, since the high castes were not willing to give it up for symbolic reasons. Ensuing the election, the OBC candidate won but the level of cooperation went down. In the dataset, it went from “cooperation” for 1991 to “No Cooperation” for 2001 for the binary dependent variable.

Another example of leadership contest from Panapri forest cooperative. The rajput (high caste) secretary of the Panapri cooperative was accused of misappropriating funds in 1995, and was removed. However, there was no consensus on the replacement, with two factions of the high castes (not being divided along caste lines or party affiliation that I could find out, just opposing factions) not being able to agree on a candidate. There was a lot of acrimony in late 90s over the issue, and ultimately, they decided on an election. One of the candidates won with a narrow margin, and the winning faction tried to heal the rift later, but the damage was done. Cooperation went down for the late 1990s leading to degradation of forests due to increased illegal activities.

The pathways through which democratic politics and party competition affects local cooperation are the same – party affiliation at the community level working through local organizations with a representative structure. The more such
organizations at the community level, the lower the negative influence of larger
democratic politics, as the pressure would be spread out across different organizations.
Similarly, the ability of the community to cooperate on a wide range of short-term
objectives provides a buffer against the fissures created by party competition. The ability
to harness traditional systems of cooperation to non-traditional tasks – organizing an
immunization clinic or repairing a community drinking water source – that are not
mandated activities of any local organization is a useful corrective to the tensions
generated by party competition.

In summary, traditional systems of cooperation at the community level in
Himachal Pradesh have undergone a tremendous transition. They have withstood direct
and indirect pressures from state interventions for development and competition
between political parties. These processes have also provided communities with
opportunities to adapt to the transition to a more secular and democratic basis for local
cooperation. The outcomes are uneven across communities, with some making the
transition smoothly and others failing to adapt to the new situations. A combination of
traditional systems based on deliberation and consensus in decision-making and
modern democratic structures of representation describes the successful cases.
5.3 Political Competition and Local Autonomy: Hypotheses and data

The dataset comprises of 33 cases of three types of community cooperation representing different levels of role of state, each observed over four time periods. The three types are Forest Cooperatives discussed in the previous chapter, small-scale irrigation management systems, and traditional community-based forest management systems. These are all long-term natural resource management initiatives, broadly categorized into three levels of interactions with state officials and the bureaucracy. The forest cooperatives have the highest level of interactions, being formally constituted under the Cooperatives Act and required to furnish annual progress and audit reports to the Cooperatives Department. These are also subject to inspection and monitoring by the Forest Department, especially with respect to large-scale harvesting of forest products within their jurisdiction. Communities in Himachal Pradesh have managed small-scale irrigation systems for a very long time – certainly more than a few centuries. Over the last three decades, however, the management systems have increasingly come into contact with state bureaucracy, mostly in connection with the steady expansion of rural drinking water supply by the Irrigation and Public Health Department. The provision of drinking water to villages in Himachal Pradesh – an impressive 90% in 1998-99 – is accomplished through decentralized small-scale schemes catering to a few villages each, drawing water from the multitude of small mountain streams and tributaries of the big rivers. Since water from these same streams is channeled by the local irrigation systems,
there is often a conflict between the needs of irrigation and drinking water. It brings the irrigation management systems in regular contact with the relevant officials in order to resolve conflicts. These conflicts are rarely severe, since the drinking water is being supplied to the same population that benefits from irrigation, but these contacts do serve to introduce a degree of state interference into the operations of the irrigation management systems. The third category is where community management systems have no formal contact with any part of the state bureaucracy. These systems manage forests used by their constituents, but the forests themselves are publicly owned. The users have legal rights to use the forests on an individual basis, but unlike the forest cooperatives, have no formal arrangement for managing the forest collectively. These systems have been managing forests for a very long time, but are not recognized by the Forest Department. Therefore, in case of conflicts, the forest cooperatives and irrigation systems have some recourse to appellate authorities, the lack of recognition renders the community forest management systems most vulnerable to state interference. The forest cooperatives and irrigation systems are of comparable size, the largest being spread over several villages; the community forest management systems tend to be smaller, most being restricted to one or two villages. The three types of cooperative systems provide the full spectrum of degree of state involvement in investigating the influence of political competition on local cooperation.
The dataset is based on the coding of qualitative case studies. Irrigation systems do not keep records of the same level of sophistication as the forest cooperatives, and community forest management systems do not keep any records at all. Given the lack of available data sources, case studies provided the best mechanism to capture the dynamics outlined in the previous section. The cases were selected from separate lists of the three types of institutions, but not at random. Given the small number of cases, the selection was done to represent variation in political competition, represented by voter turnout. In the sample, the cases represent the full variation in voter turnout across the state – ranging from 37% to 78%. A team of two investigators studied each of the cases intensively, and every case was coded for four time periods. The time periods – 1971, 1981, 1991, and 2001 – were chosen to coincide with the Census operations, so that Census data for the villages included in the cases could be utilized wherever possible. Data on voter turnout is taken from published reports of the Election Commission of India. The information was triangulated through the interviews of several individuals and groups of individuals representing different interests within the community. When there was a conflict regarding the values of specific variables, the more conservative value was chosen. For example, in one case, current BJP members claimed that there were three BJP members in the 11-member executive committee of the irrigation system in 1991, whereas the current Congress members claimed there were only two. The family of the third executive committee member claimed by BJP affiliates had migrated
out of the village and there was no way to assess the claims independently. In this case, the number of BJP members in the executive was coded as two instead of three. The final dataset yielded 132 observations of 33 cases over four time periods.

Table 5.2 Data Description

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation(^a)</td>
<td>Dichotomous variable, 1 = successful cooperation over the last ten years</td>
</tr>
<tr>
<td>Number of Villages</td>
<td>Total number of villages covered by the unit of analysis according to Census records</td>
</tr>
<tr>
<td>Number of Households</td>
<td>Number of households participating in the cooperative effort</td>
</tr>
<tr>
<td>Size in Hectares</td>
<td>Size of the area being managed by the community</td>
</tr>
<tr>
<td>Number of OBC Households</td>
<td>Number of OBC households participating in the cooperative effort</td>
</tr>
<tr>
<td>Number of Cases of Short-term Cooperation</td>
<td>Number of instances over ten years of groups coming together across villages and castes to accomplish short-term objectives</td>
</tr>
<tr>
<td>Number of Formal Village Organizations</td>
<td>Number of local organizations with a formal representative structure</td>
</tr>
<tr>
<td>Number of Poor Households</td>
<td>Number of households below the official poverty line according to Census records</td>
</tr>
<tr>
<td>Number of Households selling Farm Produce</td>
<td>Approximate number of households producing cash crops for sale in the market</td>
</tr>
<tr>
<td>External Shocks</td>
<td>Development interventions by state agencies beyond the control of local communities</td>
</tr>
<tr>
<td>Number of Leadership Contests</td>
<td>Number of times leadership rivalries led to election instead of consensual mechanisms</td>
</tr>
<tr>
<td>Number of Executive Members Affiliated with the BJP</td>
<td>Number of members of the executive committee formally affiliated with the BJP</td>
</tr>
<tr>
<td>Mean Percent Votes Polled in Assembly Election</td>
<td>Average voter turnout in all elections in last ten years</td>
</tr>
</tbody>
</table>
Factor A Measuring Competition | Vector derived using factor analysis of three measures of political competition
---|---
Factor B Measuring Competition | Vector derived using factor analysis of five measures of political competition

The dichotomous dependent variable is ‘Cooperation’ coded 1 = Yes if the community cooperated successfully over the last ten years for the particular task at hand – forest or irrigation management. This assessment is based on the judgment of the team of investigators and is based on the range of interviews conducted with community members. A lack of successful cooperation (Cooperation = 0) does not imply a lack of cooperation; only that a majority of community members did not consider the level of cooperation as sufficient or adequate for the task at hand. Political competition is measured as the voter turnout in the legislative assembly constituency in which the case is located. Voter turnout in the 1972 and 1977 elections is coded as the values for observations pertaining to 1971 and 1981 respectively. Turnout for 1982 and 1985 elections are averaged for the 1991 observations, and 1990, 1993, and 1998 are averaged for the 2001 observation. The variable approximates the level of political mobilization in the decade preceding the observation in the dataset. As argued in the previous chapter, in the case of Himachal Pradesh, proportion of voters turning out to vote also captures an important dimension of the level of political competition in the two-party system. Because the number of cases (and observations) is small, data analysis cannot use too many degrees of freedom without compromising the results. Therefore, instead of
adding more variables measuring different aspects of political competition at the larger level, we extracted variables using factor analysis of several measures representing political competition. Results from the use of two of these factors in data analysis are reported in the results. We expect measures of political competition to have a negative influence on local cooperation.

### Table 5.3 Data Summaries

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation&lt;sup&gt;a&lt;/sup&gt;</td>
<td>70</td>
<td></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Number of Villages</td>
<td>3.6</td>
<td>3.2</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Number of Households</td>
<td>187.4</td>
<td>167.7</td>
<td>8</td>
<td>963</td>
</tr>
<tr>
<td>Size in Hectares</td>
<td>309.07</td>
<td>268.71</td>
<td>4</td>
<td>1200</td>
</tr>
<tr>
<td>Number of OBC Households</td>
<td>134.8</td>
<td>147.9</td>
<td>0</td>
<td>818</td>
</tr>
<tr>
<td>Number of Cases of Short-term Cooperation&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.3</td>
<td>3.5</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Number of Formal Village Organizations</td>
<td>2.67</td>
<td>2.9</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Number of Poor Households</td>
<td>60.09</td>
<td>78.5</td>
<td>0</td>
<td>385</td>
</tr>
<tr>
<td>Number of Households selling Farm Produce</td>
<td>18.43</td>
<td>35.1</td>
<td>0</td>
<td>250</td>
</tr>
<tr>
<td>External Shocks&lt;sup&gt;b&lt;/sup&gt;</td>
<td>14</td>
<td></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Number of Leadership Contests&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.68</td>
<td>1.29</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Number of Executive Members Affiliated with the BJP</td>
<td>0.76</td>
<td>1.15</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Mean Percent Votes Polled in Assembly Elections&lt;sup&gt;b&lt;/sup&gt;</td>
<td>62.5</td>
<td>11.78</td>
<td>37.93</td>
<td>78.18</td>
</tr>
<tr>
<td>Factor A Measuring Competition&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-2.82e-10</td>
<td>.97</td>
<td>-2.32</td>
<td>1.24</td>
</tr>
</tbody>
</table>
Following from the discussion and analysis in the previous chapter, we expect politically salient heterogeneity – represented by the number of OBC households – to have an overall negative impact on local cooperation. A high number of formal village organizations are likely to provide a buffer for the influence of political competition by helping to spread out the pressure across a number of organizations. We expect every extra local organization with a formal representative structure to have a positive impact on local cooperation. Better reflection of the larger trends in political competition, represented by BJP members in the executive committee, is likely to have a positive relationship with local cooperation. Conflicts regarding representation are more likely to be resolved where the community in the unit of analysis is spread over several villages comprising of different caste groups within the community. A higher number of villages, and by implication better representation, is expected to be positively associated with the possibility of cooperation. However, leadership contests, representing a failure of consensual mechanisms, would be associated with a decrease in the probability of cooperation. Finally, more experience with cooperation for short-term objectives is likely to be positively associated with local cooperation.
The analysis includes control variables that are important determinants of or influences on local cooperation. Group size is represented by two variables: Number of Households participating in the cooperative effort, and the Size in Hectares of the total area under cooperative management. Following from arguments in the previous chapter and given the range of the values in the sample, we expect Number of Households to be positively associated with local cooperation. On the other hand, controlling for number of households, a larger area to manage will strain cooperative efforts – higher costs of monitoring and enforcement – and thus will be negatively associated with local cooperation. There are also two measures for different dimensions of group heterogeneity in addition to the number of OBC households. These are represented by the number of poor households, measured as the number of households below the official poverty line (taken from Census records), and the number of households producing agricultural goods for sale in the market. The former represents heterogeneity of endowments and is expected to lead to better cooperation. The number of households selling farm produce represents heterogeneity of interests and we expect it to be detrimental for local cooperation. Finally, these systems also suffer occasional external shocks in the form of location of large-scale development projects or other such activities nearby. The functioning of Vahul kuhl was adversely affected by the construction of a road that created a lot of debris that was dumped into the rivulet and contributed to the destruction of its headworks after a flash flood in 1997. Similarly, Maranda forest
cooperative was affected by the grant of a mining lease in its forest by the forest
department in the 1960s. The migrant workers who worked in the mine were difficult to
control and the illegal use of the forest increased to an extent where it overwhelmed the
capacities of the cooperative members. Eventually, the mine was closed down after a
few years and Maranda cooperative regained control over the forest. We have coded
such instances as a dichotomous variable. There are 14 cases of such external shocks in
the dataset, and we expect it to have an overall negative impact on local cooperation.
The summaries and brief description of the data are provided in Tables 5.2 and 5.3.

5.4 Political Competition and Local Autonomy: Findings and analysis

Data were analyzed using logistic regression in STATA and the results are
displayed in Table 5.4. The standard errors were estimated using the Huber-White
Sandwich estimator for error variance using the ‘cluster’ command, which corrects for
the violation of the assumption of independence of observations. The ‘cluster’
commands allowed us to incorporate the possible correlation of the four observations for
each case in the calculation of the standard errors of the coefficient estimates. Model 1
uses voter turnout as the only variable representing political competition at the level of
the electoral district in order to reduce the number of independent variables. Model 2
and Model 3 use factors derived from multiple measures of political competition instead
of voter turnout. The two factors are highly correlated with voter turnout \((r > 0.88)\), and the results are consistent for all independent variables across the three models.

The models have some degree of multicollinearity, with relatively high scores for Uncentered Variance Inflation Factors for two variables – Number of Households and Number of OBC Households. These two variables are also highly correlated \((r = 0.87)\), with larger villages having a higher number of OBC households. The resultant collinearity, however, will only serve to inflate the standard errors of the two coefficients, implying that the results would have been more significant if the collinearity could be reduced, which can be done only with the collection of more data. For the present analysis, we have chosen to continue with both variables in the models since they are theoretically important for the analysis. Model 1 (and the other two models) performs well in predicting Cooperation with a threshold probability of 0.5, as displayed in Tables 5.5, 5.6, and 5.7. We also ran the models with one or two of the three dummy variables representing the three types of cooperative arrangements corresponding to levels of state involvement, but neither of the dummies was significant in any combination in any of the models. We excluded the dummies in the final models to reduce the collinearity introduced by their inclusion.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Odds Ratios</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Villages</td>
<td>1.060***</td>
<td>2.886***</td>
<td>1.079***</td>
<td>1.045***</td>
</tr>
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</table>

Table 5.4 Determinants of Local Cooperation: Regression Results
<table>
<thead>
<tr>
<th>Factor Measuring Competition</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Coefficient</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Households</td>
<td>0.008</td>
<td>0.009</td>
<td>0.008</td>
<td>0.009</td>
<td>0.008</td>
<td>0.009</td>
<td>0.009</td>
<td>0.009</td>
</tr>
<tr>
<td>Size in Hectares</td>
<td>-0.019***</td>
<td>(4.37)</td>
<td>-0.019***</td>
<td>(4.37)</td>
<td>-0.019***</td>
<td>(4.29)</td>
<td>-0.019***</td>
<td>(4.28)</td>
</tr>
<tr>
<td>Number of OBC Households</td>
<td>-0.016***</td>
<td>(2.64)</td>
<td>-0.018***</td>
<td>(2.64)</td>
<td>-0.017***</td>
<td>(2.99)</td>
<td>-0.017***</td>
<td>(3.01)</td>
</tr>
<tr>
<td>Number of Cases of Short-term Cooperation</td>
<td>0.428**</td>
<td>(2.56)</td>
<td>0.456***</td>
<td>(2.65)</td>
<td>0.461***</td>
<td>(2.66)</td>
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<td></td>
</tr>
<tr>
<td>Number of Formal Village Organizations</td>
<td>-0.609***</td>
<td>(2.90)</td>
<td>-0.611***</td>
<td>(2.97)</td>
<td>-0.599***</td>
<td>(2.98)</td>
<td></td>
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</tr>
<tr>
<td>Number of Poor Households</td>
<td>-0.008</td>
<td>(1.19)</td>
<td>-0.009</td>
<td>(1.19)</td>
<td>-0.010</td>
<td>(1.15)</td>
<td></td>
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<tr>
<td>Number of Households selling Farm Produce</td>
<td>0.017*</td>
<td>(1.68)</td>
<td>0.017*</td>
<td>(1.68)</td>
<td>0.017*</td>
<td>(1.72)</td>
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<tr>
<td>External Shocks</td>
<td>-1.068</td>
<td>(1.16)</td>
<td>-1.235</td>
<td>(1.16)</td>
<td>-1.087</td>
<td>(1.48)</td>
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<tr>
<td>Number of Leadership Contests</td>
<td>-4.083***</td>
<td>(4.76)</td>
<td>-4.191***</td>
<td>(4.76)</td>
<td>-4.239***</td>
<td>(3.99)</td>
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</tr>
<tr>
<td>Number of Executive Members Affiliated with the BJP</td>
<td>2.159***</td>
<td>(4.44)</td>
<td>2.218***</td>
<td>(4.44)</td>
<td>2.250***</td>
<td>(3.81)</td>
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</tr>
<tr>
<td>Percent Votes Polled in Assembly Elections</td>
<td>-0.077**</td>
<td>(2.13)</td>
<td>0.926**</td>
<td>(2.13)</td>
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<td></td>
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<tr>
<td>Factors Measuring Competition</td>
<td>-0.938**</td>
<td>(1.96)</td>
<td>-1.058**</td>
<td>(1.98)</td>
<td></td>
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<td></td>
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<tr>
<td>Constant</td>
<td>7.806***</td>
<td>(3.10)</td>
<td>3.094***</td>
<td>(3.08)</td>
<td>2.985***</td>
<td>(3.05)</td>
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<tr>
<td>Pseudo-R2</td>
<td>0.622</td>
<td>0.622</td>
<td>0.623</td>
<td>0.623</td>
<td>0.628</td>
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Table 5.5 Predictions: Model 1

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<tr>
<th>Prediction</th>
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<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
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<td>9</td>
<td>62</td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>61</td>
<td>70</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
<td>70</td>
<td>132</td>
</tr>
</tbody>
</table>

Table 5.6 Cooperation by Year

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
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<td>11</td>
<td>17</td>
<td>22</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>21</td>
<td>22</td>
<td>16</td>
<td>11</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>132</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.7 Predictions by Year

<table>
<thead>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>11</td>
<td>10</td>
<td>18</td>
<td>23</td>
<td>62</td>
<td></td>
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Table 5.4 suggests that coefficients for the two most important variables representing political competition and politically salient heterogeneity are significant and in the expected direction. Political Competition and the two factors are significant,
as is Number of OBC Households across all the models, and both are negatively related to the probability of cooperation. The high significance and the negative effect of Number of OBC Households is consistent with the hypothesis that political competition affects local cooperation through politically salient heterogeneity at the local level. As expected, every extra member in the executive affiliated to the BJP increases the probability of cooperation, while the presence of leadership rivalries that cannot be resolved through consensual mechanisms decrease the probability of cooperation. External Shocks in the form of large-scale development interventions reduce the ability of communities to cooperate for natural resource management.

The surprising result relates to the effect of formal village organizations. While the ability to cooperate on short-term objectives is translated into a higher probability of cooperation for natural resource management, the presence of formal organizations has a negative effect on cooperation. The hypothesized relationship assumes that formal organizations with a representative structure attract interference from political parties, and a higher number of such organizations will help to disperse the pressure from political competition. This result was confirmed from the analysis of cooperatives for forest management in the previous chapter. The significant negative coefficient in the present analysis – consistent across the three models – suggests that the positive relationship is restricted to systems with high state involvement. To recapitulate, the present analysis uses a dataset that combines cooperative systems with three levels of
state involvement, with the forest cooperatives representing the higher end of the spectrum. Therefore, the presence of formal organizations has a negative effect on local cooperation, even though it has a positive effect for local cooperation with high state involvement. The effect can be tested with the introduction of an interaction effect between Forest Cooperative dummy and Number of Formal Organizations. However, the small number of observations in the dataset precludes the expansion of factor-space through interaction effects, and the examination of the relationship between state involvement and formal organizations in their effect on local cooperation must be left to future analysis of new data.

Group size has the expected sign, and so does the area under management. Higher Number of Households in the community participating in cooperative management is positively associated with cooperation, but the coefficient is not significant (p > 0.18). The lack of significance can perhaps be attributed to the high Variance Inflation Factor score for the variable (VIF = 13.11, with a Tolerance of 7.6%). On the other hand, larger area under management is significantly and negatively related to cooperation, suggesting that high monitoring and enforcement costs reduce the probability of cooperation. Heterogeneity of endowments – represented by Number of Poor Households – is positive but not significant, and heterogeneity of interests – represented by Number of Households Selling Farm Produce – is negative as expected and weakly significant.
5.5 Conditional effects of variables in Generalized Linear Models

Unlike linear models used in data analysis in the previous two chapters, generalized linear models, like logistic regression deployed in this chapter, are much less accessible to direct interpretation through a straightforward comparison of coefficients and their significance. The effect of any one independent variable in predicting the probability of a positive outcome using logistic regression is dependent on the values of all the other independent variables. Unlike linear models, a positive sign for a coefficient does not automatically translate to mean that the probability of cooperation increases monotonically with changes in the values of that variable. On the other hand, this dependence of the effect of one independent variable on the values of all the other covariates is also the strength of generalized linear models. It allows for an assessment of the contingencies between independent variables without resorting to interaction effects. Therefore, it is possible in our model to visualize the degree to which the effect of political competition on the predicted probability of cooperation is influenced by other variables such as the number of formal organizations or leadership contests. Figures 5.1 to 5.12 graphically demonstrate the extent to which the effect of political competition and number of OBC households on the predicted probability of cooperation is influenced by the values of the other independent variables.
Figure 5.1 Predicted effect of Political Competition on Local Cooperation by Number of BJP members.

Figure 5.2 Predicted effect of Political Competition on Local Cooperation by Number of Formal Organizations.
Figure 5.3 Predicted effect of Political Competition on Local Cooperation by Short-term Cooperation.

Political competition measured as voter turnout has a negative effect on the probability of cooperation, evidenced by a negative coefficient in Model 1. Figures 5.1 to 5.6 graphically demonstrate this effect of political competition on the probability of local cooperation for different values of six independent variables.

The graphs represent the effect of two independent variables simultaneously in the same graph (X-axis) on the probability of cooperation (Y-axis). Each panel represents the effect of political competition (or any other independent variable of interest) conditional on different values of another independent variable, holding all the other variables constant at their means. Each curve or line in a panel represents the relationship between political competition and predicted probability of cooperation for one value of the conditioning independent variable. In Figure 5.1, every curve represents changes in the probability of cooperation for one value of the number of BJP members in
the executive committee. For a given number of BJP members (one curve), the relationship shows that the probability of cooperation decreases with the rise in the level of political competition. In the same figure, if we hold the level of political competition the same (any point on the X-axis), then curves representing increasing numbers of BJP members in the executive are located higher. This implies that every additional BJP member in the executive committee, represented by successively higher curves, increases the probability of cooperation (depicted on the Y-axis). The negative effect of political competition for all values in its range is almost total for communities that have no BJP members in their executive committee, represented by the lowest curve in 5.1. The curve is flat, and the predicted probability even for the lowest value of voter turnout is less than 20%. With the addition of one BJP member to the executive, the curve shifts upwards and is also appreciably more elastic. Therefore, while an additional BJP member in the executive is not much help at very high levels of political competition, it nevertheless helps to increase the predicted probability above 50% for low levels of competition. As the number of BJP members in the executive increases, the negative effect of political competition declines, so that with more than three BJP members, the predicted probability of cooperation is close to 100%. This is dramatic evidence that democratic and representative politics at the local level serves to mitigate the negative influence of wider processes of political competition. A similar dynamic is exhibited in 5.5, which depicts the effect of political competition for different values of the number of
villages over which the community is divided. Clearly, communities residing in one
village are less able to overcome the negative influence of political competition
compared to multi-village communities.

![Figure 5.4 Predicted effect of Political Competition on Local Cooperation by Leadership contests.](image)

![Figure 5.5 Predicted effect of Political Competition on Local Cooperation by Number of Villages.](image)
On the other hand, failure of consensual mechanisms represented by leadership contests dramatically increases the negative effect of political competition (Figure 5.4). Even one leadership contest over the last ten years pushes the curve down close to zero probability of cooperation for all values of political competition. Similarly, external shocks from large-scale development projects also serve to exacerbate the negative effect of political competition (Figure 5.6). However, unlike leadership contests where the curves are relatively flat, the effect of external shocks in exacerbating the negative effect of political competition is higher at lower values of political competition. As voter turnout increases, the conditioning effect of external shocks decreases, so that there is hardly any distance between the two curves at high values of political competition. A lack of failure of consensual mechanisms (Leadership Contests = 0) on the other hand, continues to provide a buffer to the community against political competition even at high values; the difference between predicted probabilities of cooperation at high values of political competition for the two values of Leadership Contests is more than 40%.
Figure 5.6 Predicted effect of Political Competition on Local Cooperation by External Shocks.

Figure 5.2 and 5.3 provide a glimpse of the surprising finding relating the number of local organizations with a formal representative structure and probability of cooperation. The hypothesis that a higher number of local formal organizations will help to disperse the pressure from political competition, validated in the previous chapters for a sample of cooperatives for forest management, was not borne out in the regression analysis of a mixed sample of community efforts at cooperation for natural resource management in the present chapter. In fact, the result was a significant coefficient in the opposite direction; higher numbers of formal organizations are associated with lower probability of local cooperation. Figure 5.2 demonstrates that the negative effect of political competition is higher for every additional formal organization, represented by progressively lower curves. Further, the curves are closer together for high values of political competition, suggesting that the negative effect of an additional formal
organization is negligible at as the level of political competition increases beyond a certain level. On the other hand, as hypothesized, the number of instances of cooperation for short-term objectives is positive, and it has the opposite moderating influence on the effect of political competition. The number of instances of short-term cooperation is positively correlated to political competition ($r = 0.59$, spearman’s rho = 0.56), and high values of short-term cooperative efforts are associated with a relatively high probability of cooperation (more than 60%), even at high levels of political competition (Figure 5.3). Within the sample, both the number of formal organizations and the number of instances of short-term cooperation are strongly positively correlated to political competition measured as voter turnout. These results suggest that there are dependencies between these variables as they effect the probability of local cooperation. The effects of political competition are mixed, with the negative effects manifesting through formal organizations. On the other hand, high voter turnout also represents participation in democratic politics and the associated benefits of citizenship and political belonging, which are manifested through greater ability to cooperate on multiple objectives, and increase the probability of local cooperation for natural resource management.

Turning now to the effects of politically salient heterogeneity at the community level, figures 5.7 to 5.10 display the effect of the Number of OBC Households on the probability of cooperation, conditioned on other independent variables. The overall
effect is negative, but it is mitigated or accentuated by the other variables in the model. Figure 5.7 shows that the number of BJP members in the executive committee mitigates the negative effect of OBC membership, but this influence diminishes as the number of OBC households increase. Similarly, leadership contests dramatically increase the negative effect of OBC membership, but the difference declines as OBC numbers increase, so that leadership contests have no influence on the effect of OBC membership greater than 500 (fig 5.8). The relationship is similar for external shocks from large-scale development interventions, where the influence is limited to low values of OBC membership (fig 5.10).

![Graph](image.png)

**Figure 5.7** Predicted effect of Number of OBC Households on Local Cooperation by Number of BJP members.
Figure 5.8 Predicted effect of Number of OBC Households on Local Cooperation by Leadership contests.

Figure 5.9 Predicted effect of Number of OBC Households on Local Cooperation by Number of Villages.
Figure 5.10 Predicted effect of Number of OBC Households on Local Cooperation by External Shocks.

The number of villages, reflecting a caste-based pattern of habitation in Himachal Pradesh, exerts a significant influence on the effect of OBC membership on the probability of cooperation (fig 5.9). The curves shift upward for every additional village in the sample, and there is almost no negative effect of OBC households at high values of number of villages. For intermediate values of number of villages, the influence declines with increase in OBC households, represented by the convergence of the curves closer to a probability of zero as OBC households increases above 200. These results indicate that the negative effect of a very high numbers of OBC households at the community level is almost immune to the values of other variables. However, at intermediate values, this negative influence is mitigated by the number of villages and the number of BJP members in the executive committee.
These results also suggest that politically salient heterogeneity is far worse for local cooperation than political competition; high values of the former are always associated with very low probability of cooperation irrespective of the values of other variables, whereas high values of political competition are associated with high probability of cooperation in the presence of high number of BJP members, a high number of villages, a lack of leadership contests, or a high number of instances of short-term cooperation. This difference is brought out in sharp relief in Figures 5.11 and 5.12.
Figure 5.12 Number of OBC Households on Local Cooperation, for Number of Leadership Contests, by External Shocks.

The first figure (5.11) displays the effect of political competition on the predicted probability of cooperation conditioned on the values of the number of BJP members in the executive committee. The second figure (5.12) displays the effect of number of OBC households conditioned on the number of leadership contests. The two graphs in each figure represent the effects for the absence or presence of external shocks. The successive curves representing higher number of BJP members in the top panel are significantly higher in the top panel, even at high values of political competition. In striking contrast, curves representing different values of leadership contests converge at intermediate values of OBC households. This interpretation needs to be tempered with the fact that there are only 14 observations with external shocks in the dataset, and none of them
have high values of OBC membership, raising the possibility that these findings are regression and sample artifacts. The exploration of the conditioning effects of independent variables on the relative negative effects of political competition and politically salient heterogeneity must await new data with sufficient variation in the relevant covariates.

In summary, political competition and politically salient heterogeneity have a negative association with local cooperation, confirming the first set of hypotheses being tested in this chapter. These negative relationships, however, are mediated by a number of factors, most significantly democratic representation at the community level, experience with democratic practices through the presence of formal organizations with a representative structure, and the ability of community members to cooperate for short-term objectives. While very high levels of political competition and politically salient heterogeneity are associated with low probability of cooperation, the effects of political competition are mitigated to some extent by the other factors.

5.6 Conclusions: Co-management and cooperation

This chapter sought to test the findings in the previous chapter regarding the negative relationship between political competition and heterogeneity on the one hand, and local cooperation on the other, on a dataset with greater variation in the level of involvement of state in community level management of natural resources. We conclude
that the effects reported in the previous chapter are confirmed in this chapter as well; political competition has an overall negative relationship with local cooperation. Further, politically salient heterogeneity, represented in Himachal Pradesh by the rise of the economic and political power of the Other Backward Castes, is also negatively associated with local cooperation. Contrary to expectations, the hypothesis that a higher number of local organizations with a formal representative structure will serve to mitigate the negative effect of political competition, confirmed in the previous chapter, was not borne out in this analysis. The relationship was significant in the opposite direction; a higher number of formal organizations exacerbated the negative influence. The hypothesis was based on the argument that each local organization with a formal structure provides a point of entry for pressure from political competition to enter the community, and the availability of multiple points of entry will serve to disperse the pressure.

This finding serves to highlight the complex and multi-dimensional nature of the relationship between democratic politics and local cooperation. Whereas better representation is positively related to local cooperation, the presence of multiple representative structures has a negative influence. At the same time, communities that are better able to harness their cooperative skills at multiple short-term objectives are successful in mitigating the negative effects of political competition and political heterogeneity. As described in Chapter Four, to the extent that these instances of
cooperation for short-term objectives are spurred by the indirect role of the state in enhancing community capabilities – better health and education, for example – and successful penetration of the state in rural areas for better delivery of public services is a consequence of competition between political parties, it is arguable that political competition generates multiple impulses in society, only some of which – often the most visible and apparent – have a negative influence on local cooperation.

To reiterate, the dataset analyzed in this chapter consists of a mixture of cooperatives (with formal linkages to state agencies), irrigation systems with some but limited involvement of state officials in day-to-day operational activities, and traditional community systems for forest management that have no formal relationship with any part of the state. The previous chapter analyzed a dataset comprising exclusively of cooperatives for forest management with high formal linkages to the state. The straightforward interpretation of the different findings related to the role of formal organizations in the two chapters is that the presence of other formal organizations serves to mitigate pressures from political competition in the case of formal organizations like the cooperatives analyzed in the previous chapter, but have a negative effect on local cooperation on average. This is certainly in agreement with the hypothesis that formal structures at the local level attract more attention from political parties, and explicit linkages with state agencies will only serve to increase that attraction. Further, the pressure from political parties is dispersed only across other
formal organizations with linkages to state agencies. For local cooperative systems that do not have a high degree of state involvement, the presence of other formal organizations with linkages to the state only serves to exacerbate the pressure. Therefore, the distinction with respect to the mitigating effects should not be between the presence and absence of formal organizations at the local level alone, but between the presence and absence of formal organizations with explicit linkages to state agencies. These linkages in the latter provide easy access to the community for political parties, something that is relatively difficult for organizations without such linkages.

Autonomy from state interference is often posed as absolutely important for the functioning of decentralized institutions. The foregoing analysis has demonstrated that not only is it naïve to assume that communities can maintain full autonomy from state interference, but also that there are several factors that mitigate the negative effect of external pressures even with less than full autonomy. Politically salient heterogeneity is a consequence of wider processes of democratic politics, and any one community can only take its consequences, but better representation systems have been shown in this chapter to provide a buffer against the difficulties in cooperation posed by heterogeneity. Eventually, these larger dynamics play out over time, and communities need to be able to adapt to changing situations. There was no political salience to the presence of Other Backward Castes in Himachal Pradesh in the early 1970s, or even for that matter, the rest of India. It seems to have peaked in the 2003 elections, with both
parties fully acquiescing to the power of the OBC vote in equal measure. In the absence of a political party exclusively representing the OBCs or a horizontal organization devoted to the same task, it is unlikely that the OBC vote will continue to attract the same attention in local mobilizational efforts of political parties. It is almost certain that the dynamic will move forward as political parties jostle for votes by creating fresh cleavages that represent entirely new forms of political heterogeneity. How that affects the ability of local communities to cooperate for natural resource management depends on several other factors, as shown in this chapter.
6. Conclusion: Democracy on the Commons

In September 2005, President Kibaki of Kenya issued a notification degazetting Amboseli National Park, changing its legal status to National Wildlife Reserve, implying that the management of the area would now be transferred from the Kenya Wildlife Service to the local government (Olkejuado County Council). Conservationists from across the United States and Europe (and some in Kenya) protested against the move, arguing that Amboseli would be mismanaged by the local council, leading to the destruction of the nature reserve. One big reason, many participants pointed out in discussion fora on www.saveamboseli.net and related websites, for the predicted mismanagement from decentralization was that interference generated by divisive national politics would not allow the local elected government to manage the reserve effectively. In fact, the President’s move itself was linked to the mobilization of votes for and against a draft constitution in a national referendum due in November 2005. Kibaki, a fervent supporter of the draft, was facing a resurgent opposition and was in need of shoring up support. The degazetting of Amboseli was presented as an act to restore lands to the Masai community that had been usurped by the state in 1974 for the National Park, in the hope of attracting the significant Masai vote in support of the draft constitution.
Amboseli is a big tourist attraction for its amazing wildlife, generating millions of dollars in revenue every year. A part of that revenue stream would now accrue to the county council, and might act as a strong incentive for good management. There are several National Reserves in Kenya managed by county councils and the record, though mixed, is not unambiguously against good management. In the Masai Mara National Reserve straddling the neighboring districts of Narok and Trans Mara, we can see both outcomes. One county council is unable to get its act together and is steadily losing revenue over the last decade, while another council managing the western part of the reserve has done quite well in managing the wildlife and tourists. Aside from the obvious pro-wildlife bias in the arguments of most conservationists, what theoretical apparatus exists to help us predict the fate of Amboseli under decentralized management? Decentralization of the management of natural resources is taking place in scores of countries, and many of these are also witness to increasing consolidation of democratic institutions. The explanation for the diversity of outcomes of decentralization – in Kenya, India, and elsewhere – lies at the intersection of the local and higher levels, especially in the political relationships between local groups and individuals on the one hand and institutions of democratic politics on the other. Understanding, explaining, and/or predicting the variation in performance of decentralization policies requires a cross-level analysis involving local factors and their relationships to the political environment they find themselves in but do not control.
This dissertation has endeavored to explore these relationships between decentralization and democracy through analysis of the performance of decentralized natural resource management in India. This concluding chapter brings together findings from the empirical analysis to bear upon the general theoretical questions outlined in the introduction chapter. The next section revisits the empirical analysis looking at the two broad categories of hypotheses laid out in Chapter 1 – relating to resource outcomes and local cooperation – and seeks to unite the findings across chapters. The second section builds upon the findings to explore the dimensions of the relationship between democracy and decentralization, discussing the extent to which the findings are relevant to situations beyond natural resources and the Indian context.

6.1 Political Competition, Local Cooperation, and Natural Resources

In the abstract, both democracy and decentralization are deemed to be desirable, democracy for chiefly normative reasons and decentralization for chiefly practical reasons. However, the devil is in the details. The trajectory of the evolution of democracy is not described by a universal teleology, punctuated as it is by the shifting dynamics of struggle amongst social interests mediated by political institutions. The pathology of decentralization is not universally positive either, and the practicalities behind any given policy may as well be driven by less superior motives than efficiency.
and equity. As one moves down the scale of units of analysis from country to village, it is clear that there is a wide variety in the spatial distribution of outcomes, and this variety holds the key to a better understanding of the relationship between democracy and decentralization of natural resource management. The theoretical task, therefore, is to specify a set of conditions under which (actually existing) democracy assists (or hinders) a better management of natural resources, both directly and indirectly through decentralization. The two sets of hypotheses presented in Chapter 1 were developed to explore these conditions, and were tested on three datasets in the empirical chapters. The theoretical expectations have largely been borne out in the analysis.

Democracy and resource outcomes

The evolution of democracy in Himachal Pradesh, with the pattern of increasing party competition and political mobilization described in Chapter 3, has moved in the direction of greater salience of environmental issues in politics. A gradual movement towards a two-party system has contributed to higher and better provision of public goods like health and education, which in turn has improved state-society linkages on multiple dimensions. Political parties and their cadres at the local level have played a critical role as an important conduit between state and society, and the high levels of competition at the state level have translated into a relatively high degree of state responsiveness to local demands for public services. This diffuse process of state formation and democratic consolidation has a beneficial effect on the health of natural
resources as well, as demonstrated by the aggregate increase in area under forest cover over the last decade in Himachal Pradesh. Statistical analysis also reveals a similar dynamic, as seen in (on average) the success of state forestry plantations, the positive role of state-supported local organizations like Mahila Mandals and Yuvak Mandals, and high levels of democratic participation, in explaining the variation in changes in forest cover at the local level.

The hypothesis that being located in a highly-competitive electoral district would be associated with a decrease in local forest cover has not been borne out. The finding is in the opposite direction, though not statistically significant. The expectation was driven by the logic (and some qualitative evidence) that constituents in a highly competitive electoral district are more likely to succeed in forcing state officials in easing the enforcement of rules in their favor, assuming that rules for forest conservation are restrictive in nature. The finding suggests that, on average, forests have changed for the better in highly competitive districts, though not significantly in statistical terms. In the light of other findings regarding the beneficial effect of the diffuse process of democratization and political participation for resource outcomes, this finding indicates that the local interests calling for lax enforcement are weaker than the factors driving a better provision of public goods such as rule enforcement. In that case, the analysis suggests that the consequences of democratic politics are positive for forest cover in
Himachal Pradesh, a finding that resonates with the increasing salience of environment in state politics.

Finally, the statistical analysis provides clear evidence that forests under communal management and common property arrangements are more likely to have changed for the better than forests under state or private management. Thus, calls for greater decentralization of management authority over forests – within Himachal Pradesh and elsewhere – are validated, and so are the numerous decentralization policies being implemented with that expectation. But what are the enabling conditions that undergird this outcome in Himachal Pradesh? In calling attention to the success of decentralization in natural resource management, it is equally important to pay attention to other factors that enable this success.

Joint Forest Management (JFM) is the predominant decentralization initiative for the decentralization of forest management in India. Millions of hectares of formerly state-managed forests are being transferred to a co-management regime where local communities and the forest department jointly manage the forest commons. The JFM program is often assumed to be at the root of the recent trend towards aggregate increases in forest cover in India. But as within Himachal Pradesh, there is wide variation across states in both the amount of forest cover regenerated and the area under JFM. Table 6.1 provides numbers for a few selected states in India. The table includes the pioneers of JFM (West Bengal and Orissa) as well as relative laggards (Kerala and
Rajasthan) with a few in between. It is clear from the numbers that there is no clear-cut relationship between the area under JFM and the area of forests regenerated over a comparable period.

Table 6.1 Area under JFM and Forest Regeneration

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<tr>
<td>Himachal Pradesh</td>
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The experience of Himachal Pradesh suggests that an inclusive process of political mobilization and competition at the provincial level, and high levels of political competition at the level of the electoral district provide the conditions under which states are responsive to citizen demands. While we don’t have data for levels of competition at the electoral district level, an inclusive process of political mobilization and competition at the state level has been the characteristic of West Bengal and Kerala over the last two decades, and Rajasthan more recently. These are also the states that
have done well (and better than states with more area under JFM) in terms of forest regeneration. These state-level trends provide circumstantial evidence that democratic politics might play an important role not just in explaining changes in forest cover, but also the success of decentralization policies generally.

Political competition and local cooperation

The finding that communal management is superior, after controlling for characteristics of user communities and institutional arrangements for regulating forest utilization, brings us to the next set of hypotheses that unpack the community to explore factors that enable (or deter) collective action.

Most justifications for decentralization focus on efficiency gains in the provision of public goods. In calling for community level management of natural resources, arguments have gone further, pointing to the comparative advantage of place-based communities in everyday interaction in solving coordination and collective action problems that plague the provision of non-excludable goods. As discussed in Chapter 1, the emphasis on this comparative advantage in justifications for community management of natural resources has focused attention of scholars on the internal attributes of communities and their role in enabling local cooperation and collective action. However, to the extent that such communities (and their constituents) interact with the larger political system within which they exist, the ability of a group of individuals comprising any community to act collectively will be influenced by the
larger political process. Some of these external influences are likely to be detrimental to local cooperation.

Chapters 4 and 5 analyze local cooperation for decentralized management of natural resources in Himachal Pradesh. Statistical analysis of the experience of forest and irrigation management institutions, with varying degrees of direct state involvement in their functioning, presents several interesting findings. A community located in a highly competitive electoral district is less likely to mount successful collective action, compared to one located in a less competitive district. The reasons are manifold, including interference from political parties keen to recruit new voters, but this finding implies that there is a tension between democracy and decentralization – decentralization policies that depend upon local cooperation are less likely to be successful where democratic politics is characterized by high political competition at the level of the electoral district, unless ameliorative measures are undertaken (discussed below).

The dynamics of political competition in Himachal Pradesh has resulted in the salience of a relatively new category of voters – those belonging to Other Backward Castes or OBCs. This phenomenon of middle peasant castes rising in political stature has been witnessed in several states in India over the last five decades. Comprising of several disparate castes united by an occupational preference for agriculture and located in the middle of the caste hierarchy, the OBCs have been courted by all political parties
in Himachal Pradesh since their emergence in the mid-1980s. Growing differentiation within the OBC ranks as well as the absence of any significant horizontal organization to coordinate political actions has meant that the OBCs represent a fluid vote bank, something that can be exploited by political parties. The main channel for the recruitment of OBC voters has been through a greater space and visibility to OBC leaders in all political parties. This process of recruiting OBC voters through OBC leaders has trickled down to the village level, where political parties seek to recruit emerging leadership in local organizations, including those involved in natural resource management.

The drive to recruit the OBC vote has made it more difficult for local communities to cooperate for natural resource management, as evidenced by statistically significant findings in Chapters 4 and 5. This finding also illuminates a shortcoming of the analysis of heterogeneity in the literature on collective action, which has reported ambiguous findings in the relationship. In any given situation, there are many dimensions on which a community may be heterogeneous – caste, class, race, gender, religion, language, occupation, and so on. But the dimension of heterogeneity that is important in any local situation is one that derives its salience from the larger context. Therefore, any analysis of the role of heterogeneity in collective action that ignores the larger context is likely to be widely off the mark.
The dynamics of political competition are beyond the sphere of influence of any given decentralization policy. However, there are institutional features of local cooperative arrangements that ameliorate the negative impact of political competition on local collective action, and could be conceptualized as policy interventions. First, better representation of the diversity of interests within the group is associated with higher levels of cooperation. Representative democracy within the community allows for better coordination and easier resolution of within-group differences in interests. A process of trickle-down democracy can be observed in Himachal Pradesh where local institutions for collective action are increasingly imitating the template of representation presented by liberal democracy – a general body of members electing a smaller group of representatives to collectively implement the group’s objectives. Aspects of deliberative democracy are retained, so that secret ballot and competitive elections are only a last resort when consensual mechanisms fail to resolve group differences, but the gradual institutionalization of traditional cooperative arrangements – such as management of irrigation and forests – represents a consolidation of local democracy that enables sustainable collective action.

In a vertically organized society such as India, where within-community interactions used to be structured by the caste system until a few decades ago, political mobilization often involves agents and/or district leaders of political parties negotiating with a unified village elite for access to the combined vote of all the constituents. With
political mobilization and competition, this pattern has been largely broken in much of Himachal Pradesh. With growing internal differentiation of local communities, it is no longer feasible for the traditional community leadership to control voting behavior, and political parties have adjusted to this change by trying to recruit multiple leaders from within the same community. In this scenario, communities whose leaders are linked to more than one political party have been more successful in cooperating for natural resource management. Conversely, communities with leaders affiliated to only one political party – in effect, the interaction of community members to larger democratic politics is dominated by one political party (the Congress in our case) – do worse in local cooperation.

Taken together, the two sets of hypotheses – regarding resource outcomes and local cooperation – present an interesting finding. Aspects of democratic competition have a negative bearing on the ability of local communities to cooperate for natural resource management, but resources under communal systems are better managed compared to resources under state management. Thus decentralization is a better alternative to centralized management of natural resources, even with the tension between democracy and decentralization.

6.2 Democracy and Decentralization: Beyond Himachal Pradesh and Natural Resources

To a significant degree, the outcomes in Himachal Pradesh are driven by a pattern of democratic competition that has consolidated into a two-party system. As
mentioned in Chapter 1, even though the national picture in India shows a fractured polity, trends in the states are moving in the opposite direction. More and more states are falling into a system of two major competing parties, often alternating in power over successive elections. Unstructured interviews with researchers and activists indicate that trends in the evolution of the relationships of local communities with the larger political system in Rajasthan, Madhya Pradesh and Andhra Pradesh are roughly similar to those described here for Himachal Pradesh. These involve two main parties driven by competition to recruit voters through accommodation of community leaders, often resulting in an increase in the leverage of local communities over decisions regarding the provision of public services.

Beyond the two-party situation, especially in the majority of developing countries, the causal mechanisms behind the relationships should still hold for fractured polities as long as two conditions are met. First, differential political mobilization requires a high level of competition at the level of the legislature, giving a comparative advantage to the party that can mobilize the most voters in its favor across all districts. Second, the parallels will be stronger in the most competitive electoral districts (given high competition at the state level). Since the mechanisms relate to the relationship between local communities and the larger political system, the specific features of higher level electoral institutions may only be relevant to the influence of democratic competition on resource outcomes or local cooperation to the extent that they impact on
this cross-level interactions. However, the extent to which the findings of this dissertation can be exported to systems of democratic competition different than the single-member-district first-past-the-post plurality system in Himachal Pradesh remains to be explored.

Natural resource management presents its own set of peculiar problems. Most importantly, it is the common-pool aspects of natural resources that are valued by the users. Common-pool goods share the feature of low excludability with public goods, but also suffer from high subtractability. A tree used by one villager is not available for another; water diverted for irrigation by one farmer is not available for another. This is radically different from public goods, such that my use of the hand pump does not reduce its utility or availability to others who come after me. It is the groundwater that the hand pump is drawing upon that is subject to the dynamics of common-pool resources. Where decentralization policy envisages collective action for the provision or maintenance of public goods – like a hand pump – we should find the same dynamic as for common pool goods, though with a lesser or less significant impact of democratic competition. Not only will a two-party system provide better (or more) public goods, as argued by Chhibber and Nooruddin (2004), democratic competition should make it easier for communities to sustain cooperation for the maintenance of local public goods compared to local common-pool goods.
In the end, it is important to emphasize that the capacity of local communities to manage resources, whether public or common-pool, is organically linked to state capacity to deliver its share of the bargain. No decentralization policy that devolves authority to local communities can succeed without attending to the role of external agents – state agencies, political parties, etc. – in filling in for what local communities cannot provide, such as rule enforcement, secure property rights, and physical infrastructure. Democratic competition can play an important role in ensuring that the external environment is conducive to the success of decentralization.
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Biography

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