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People and Forests

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Clark C. Gibson, Margaret A. McKean,
and Elinor Ostrom

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Small Is Beautiful, but Is Larger Better? Forest-Management Institutions in the Kumaon Himalaya, India

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Introduction

An increasing number of scholars, development practitioners, and environmental activists today forward microinstitutional solutions as the remedy for renewable-resource scarcities. They have thus helped to shift attention away from market- or state-oriented policies as the only two alternatives to achieve development or environmental conservation (Anderson and Grove, 1987; Ostrom, 1990; Ostrom, Schroeder, and Wynne, 1993). The fresh claims on behalf of the local (Chambers, 1983; Korten, 1986; Uphoff, 1986), the indigenous (Cultural Survival, 1993; Denslow and Padoch, 1988; Richards, 1985), and the "little community" (Hecht and Cockburn, 1990; Scott, 1976; Wade, 1994) represent a long overdue move.¹

The growing focus on community institutions and indigenous voices recognizes that national and international environmental trends are the aggregate consequence of the possibly independent concrete actions of millions of users. It accepts the rupture between the interests of local populations and those of national governments and international institutions. After all, advocates of global conservation or national development may alike encroach on the rights and capacities of local users of natural resources (Redford and Sanderson, 1992; Agrawal, 1992). But even more appropriately, the focus on the local marks a shift from the preoccupation with centralized, overarching, and overreaching solutions of the past decades that have failed to reverse and may indeed have contributed to environmental problems and attendant social tensions.² Existing state

policies on development and conservation are increasingly seen to inflict violence at multiple levels on everyday relations of existence and livelihood in rural areas.³

The attention to local spaces and communities, thus, forms a critical move in the conversation on development and conservation. The ensuing study builds on the insights in this literature by interrogating the relationship between group size and successful achievement of collective action. Contrary to a large literature in the social sciences, I question the presumption that smaller groups are more successful than larger groups.

The study analyzes village forest councils in Almora district in the Indian Middle Himalaya. These community-level councils help residents utilize and protect forest resources in accordance with rules they themselves craft and help to enforce. To meet the objectives of this chapter, I first briefly describe the process behind the birth of the forest councils. I then examine the interactions between the interests of the British colonial state and the actions of local populations and how these led to outcomes that incorporated the interests of village populations.

The sketch of the birth of the forest councils in the region sets the stage for seeking the solution to a puzzling finding of the research: councils with a larger membership find it easier to organize successfully for collective action, and the smaller councils face difficulties in organizing successfully.⁴ An enormous literature in the social sciences, inspired by the seminal work of Mancur Olson, has investigated why smaller groups are more successful in organizing collective action. The analysis seems convincing. Rational individuals, acting in their self-interest, are unlikely to act in ways that would facilitate the provision of collective goods for a group, even if all group members share the same interest. Hammering this insight home, Olson showed how smaller groups are better able to overcome the problem of collective action in comparison to larger groups. Since his work, analysts have underscored his conclusions using game theory and metaphors such as “the tragedy of the commons” (see Olson, 1990, for an analysis).

The findings reported in this chapter, however, undermine conventional wisdom. Building on the empirical observation that smaller forest councils find it more difficult to organize successful collective action, the chapter discusses some significant theoretical reasons why larger groups

might be more successful. After describing the basic characteristics of the villages where I conducted research, I first attempt a local explanation of the success of the larger councils. I then elaborate the analysis to provide a more generally applicable explanation. In examining the relationship between group size and collective action, this study makes two important departures. Much writing on collective action focuses on the internal dynamics of a group. In contrast, this chapter looks at the external dynamics: the relations of a group with other groups. Second, it draws a distinction between mobilizing a group for collective action and success in meeting the objectives of collective action. Using these two distinctions, it constructs an argument about why larger groups may be more successful than smaller ones.

The Forest Councils of Kumaon

A multiplicity of institutional forms occupies the terrain of resource management in Almora. Three distinct regimes can be identified: (1) reserved forests controlled by the Forest Department, (2) civil forests managed by the Revenue Department, and (3) community forests managed by the forest councils. The activities of the forest councils are the focus of investigation.

I trace the history of the forest councils to the activities of the colonial British state in the mid-nineteenth century. From this period onward, the British government made a number of inroads to curtail progressively the area of forests under the control of villagers (Guha, 1990, 44–45). Between 1910 and 1917 alone, the government transferred an additional 2,500 square kilometers of forests to the Imperial Forest Department. At the same time it also enacted elaborate new rules specifying strict restrictions on logging and grazing rights, reduced rights to nontimber forest products, prohibited the extension of cultivation, sought to regulate the use of fire that villagers believed to result in higher grass production, increased the labor extracted from the villagers, and strengthened the number of official forest guards (Pant, 1922).

The new rules stirred villagers into widespread protest. They simply refused to accept the rules or the fundamental assumption undergirding them—the state’s monopoly over all natural resources it deemed

significant. The best efforts of government officials failed to convince the villagers that the forests belonged to the government (Ballabh and Singh, 1988). The government had hoped that the residents of the hills "would gradually become accustomed to the rules," but "the hill man proved impatient of control" (KFGC, 1922, 2). The incessant, often violent, protests forced the government to appoint the Kumaon Forest Grievances Committee to look into the local disaffection. The Committee examined over 5,000 witnesses from all parts of Kumaon in 1921 to make more than 30 recommendations. On the basis of these recommendations, the government passed the Forest Council Rules of 1931. These rules empowered village communities to create forest councils and bring under their own control forest lands that were managed by the revenue department as Class I and Civil Forests.⁵

Nearly 3,000 forest councils today formally control about 30 percent of the hill forests in Kumaon. Of these, close to 1,700 exist in Almora alone (Agrawal, 1995, 51). The broad parameters that define the management practices of these institutions are laid down in the Forest Panchayat Rules. More specific day-to-day management of community forests is the result of local action. Rural residents meet frequently, discuss the specific rules that will govern withdrawal of benefits from forests, and create monitoring, sanctioning, and arbitration devices to resolve the vast majority of management questions at the local level. They elect their leaders from within the community, select guards to enforce rules, fine rule breakers, manage finances, and often deploy earnings for the benefit of the community.⁶

This abbreviated history of the emergence of the forest councils in Kumaon resonates with some critical issues in the social sciences. In contrast to much writing on local communities and peasants that treats its subjects as unwitting victims of a power-hungry centralizing state, it shows that in the Kumaon hills, villagers significantly influenced government policies to make them reflect local needs for forests. They organized, resisted new state policies, and gained a measure of success in wresting back some control over forests. This is not to say that state actors do not seek greater control. Rather, it is simply to underline that although macro-level initiatives can determine micro-level outcomes, the contours of such initiatives and the processes through which their outcomes unfold are unavoidably shaped by social action at the micro level.

Resources of the Councils

The most significant products villagers harvest from their forests are fodder, fuelwood, animal bedding, organic manure, and construction timber. Figure 3.1 outlines the importance of forests in the hill agricultural and subsistence economy by tracing the links between forest products, and the kinds of needs such products fill. Forests are the cornerstone of subsistence in the hills, contributing critical inputs to each element of the subsistence economy—the household, agricultural fields, and livestock rearing. In addition, council forests containing chir pine (*Pinus roxburghii*) also yield resin for turpentine, a commercially valuable product.

Subsistence products from the community forests are usually available to all residents of the villages in which the forest councils are located. The cash revenues from the distribution of the forest products are used to monitor and guard the resource and to meet operational expenses of the councils. In some cases, councils have also had sufficient surpluses

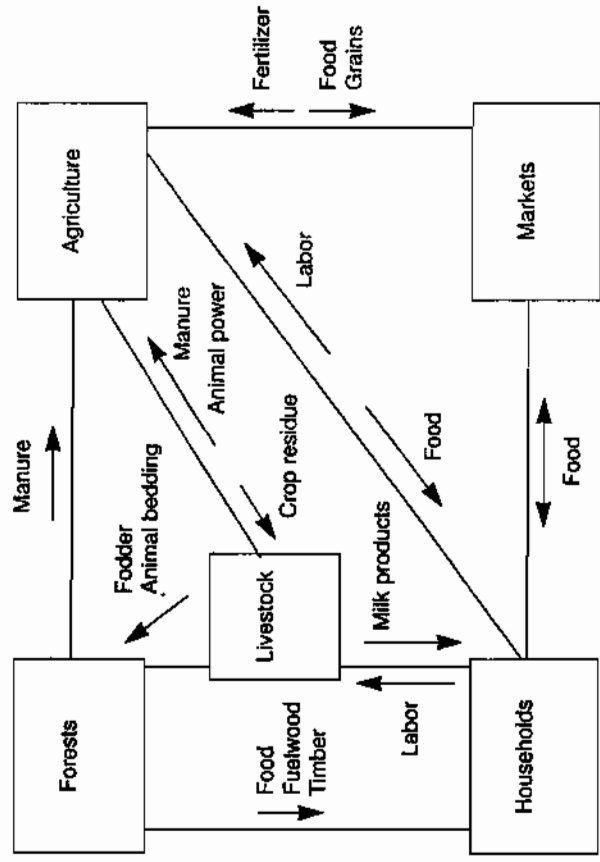


Figure 3.1
Forests in the hill subsistence economy

to create communal goods for their villages such as school buildings or common utensils that are used to cook food for the community during festive celebrations such as marriages or religious festivals.

Key Actors

The forest councils are embedded in a web of social and administrative relationships. These relationships presume the patterns of influence laid down in the Forest Council Rules of 1931, as amended in 1976 (see table 3.1). While the Rules provide for support to the councils from the Revenue and the Forest Departments to facilitate rule enforcement and the maintenance of vegetation in the forests, it grants them only limited authority to enforce rules. Indeed, over the last several decades, the modifications in the Rules and the manner of their application have greatly reduced the independence of the villagers. In the quotidian interactions of different actors that influence the performance of the councils, higher-level government officials, especially those in the Revenue Department, have emerged as pivotal in the success of the councils. That they were assigned supervisory and enforcement powers played a crucial role in this process.

As table 3.1 shows, the powers of the councils, especially their enforcement authority, suffered a substantial decline in 1976. The overall framework of rules within which they could operate became far stricter. In addition, new restrictions on day-to-day activities meant that they could fine rule breakers only with the consent of the person involved or once permission was secured from higher-level government officials. For major disputes they were required to move the judiciary or rely on aid from the officials of the Revenue Department.

As a result, those forest councils that have few resources at their command have been plagued by rule infractions. Their elected officials, lacking independent means to pursue court cases and the requisite influence to move the officials of the Revenue Department, have often been helpless to enforce the rules they created. Asked in a meeting to list the four most important problems facing their councils, 30 heads of councils listed problems related to inadequate supervision and local rule breaking and monitoring 68 percent of the time. In contrast, problems related to

low cash incomes of the councils were mentioned only 32 percent of the time.⁷

At the same time, the officials of the Revenue Department who are supposed to help the councils must perform a host of other duties, including the maintenance of law and order, collection of taxes, and administration of development projects. Most government officials consider these duties to have a greater priority over tasks related to forest councils. For many councils inadequate levels of enforcement and limited local resources are a major problem.

The Case Studies

Data on nine forest councils form the basis for the ensuing discussion.⁸ Five of these councils are located in the Dhauladevi Development Block of Almora District, near the historic religious site of Jageshwar.⁹ The second set of four councils is drawn from the Lohaghat development block of Pithoragarh district. All the nine councils range in elevation from 1,100 to 2,000 meters; their forests lie between 1,400 and 2,100 m. They are all close to motorable roads and thus more or less equally exposed to market forces (see table 3.2). Forest resources are scarce for the residents of all the villages that have the councils, and villagers compete for subsistence benefits from forests. Many of the residents in the nearby villages, who do not have their own council forests, depend either on scattered plots of forests owned by the Forest Department or on the forests of their neighbors.

Although the selected forest councils and their settlements are situated within the same ecological and administrative divisions and face similar levels of market pressures, they differ in size, organization, age, and resource endowments. Table 3.2 presents some basic features of the selected councils. The first five are the councils from Almora district, and the latter four are from Pithoragarh. We can say that six of the councils are small (in number of households): Pokhri, Tangna, and Kana in Almora, and Lada, Kadwal, and Jogabasan in Pithoragarh. None of them have more than 30 households. Kana and Lada are a little larger within the group of small councils. Kotuli and Bhagartola are relatively large, as is Goom. The same points about size can be made as far as the area of the council

Subject	1931	1976
Formation or dissolution	<p>1. Two or more residents can propose the formation of the van panchayat for a village.</p> <p>2. The Deputy Commissioner can dissolve a panchayat in case of repeated mismanagement or rule infractions.</p>	<p>Rule 2 remains the same:</p> <p><i>Modifications:</i></p> <p>1. One-third of the villagers must propose the formation of the van panchayat.</p>
Membership	<p>1. At least three, and at most nine, members are elected to the van panchayat by villagers.</p> <p>2. Panches select their leader as Sarpanch.</p> <p>3. Panches can force the resignation of individual members by a majority. The empty position can be filled from among right-holders by a majority decision of the panches.</p> <p>4. All village residents and others who possess rights in the forest can be right-holders in the panchayat forest.</p>	<p>1. Five to nine members to be elected to the van panchayat.</p> <p>2. The Deputy Commissioner can nominate one member to the panchayat.</p> <p>3. The Sarpanch can be removed from office by one-third of the members, provided this step is approved by two-thirds of the members in a subsequent meeting.</p> <p>Rules 1, 3, and 4 remain the same.</p> <p><i>Further Restrictions:</i></p> <p>a. See modifications c, d, and e under "Allocation of Income."</p>
Rules regarding resin extraction	<p>1. The Forest Department is responsible for harvesting resin from chir pine trees.</p> <p>2. Profits are shared between the Forest Department and the panchayat in proportions to be determined by the Forest Conservator.</p> <p>3. Panchayat can harvest resin in accordance with rules laid down by the Forest Department. The resin can be sold to either the Forest Department or registered buyers.</p>	<p>Rules 1, 2, 4, 5, 6, 7, and 8 remain the same.</p> <p><i>Further Restrictions:</i></p> <p>a. All decisions of the panchayat are to be made by two-thirds vote.</p> <p>b. The panchayat is to meet at least once every three months; proceedings of the meeting are to be recorded and a copy submitted to the deputy commissioner.</p> <p>c. All extraction of timber beyond one tree requires permission from the Deputy Commissioner, Divisional Forest Officer (DFO), and the Conservator of Forests (CF). Any sales of forest produce must be in accordance to the working plans prepared for the van panchayat by the Forest Department.</p> <p>d. For commercial sale or auction of forest products (fodder, grass, minor forest products, firewood, timber), the permission of the DFO must be obtained. If the value of the auctioned products exceeds Rs. 5,000, the DFO must be present. All auctions above Rs. 5,000 must be approved by the Conservator of Forests.</p> <p>e. The panchayat must prepare annual budgets and submit an annual report to the DFO each year.</p>

Table 3.1
Changes in the Van Panchayat Act between 1931 and 1976

<p>4. Panchayat members can harvest resin for domestic use.</p> <p>1. Panchayat forest land cannot be sold, mortgaged, or subdivided.</p> <p>2. The products and proceeds from the sale of products of the panchayat forest are to be used for the benefit of the community.</p> <p>3. The panchayat is to protect the forest and its trees (but with no explicit restriction on commercial sale of trees or timber).</p> <p>4. The panchayat is to prevent villagers from cultivating the panchayat forest land.</p> <p>5. The panchayat is to demarcate the forest area.</p> <p>6. The panchayat is to maintain minutes of meetings and records of accounts and make decisions in regular meetings.</p> <p>7. The panchayat is to follow the instructions of higher revenue officials.</p> <p>8. The quorum requires two-thirds of the members of the committee to be present.</p> <p>9. All decisions are to be made by simple majority.</p>	<p>4. Panchayat members can harvest resin for domestic use.</p> <p>1. Panchayat forest land cannot be sold, mortgaged, or subdivided.</p> <p>2. The products and proceeds from the sale of products of the panchayat forest are to be used for the benefit of the community.</p> <p>3. The panchayat is to protect the forest and its trees (but with no explicit restriction on commercial sale of trees or timber).</p> <p>4. The panchayat is to prevent villagers from cultivating the panchayat forest land.</p> <p>5. The panchayat is to demarcate the forest area.</p> <p>6. The panchayat is to maintain minutes of meetings and records of accounts and make decisions in regular meetings.</p> <p>7. The panchayat is to follow the instructions of higher revenue officials.</p> <p>8. The quorum requires two-thirds of the members of the committee to be present.</p> <p>9. All decisions are to be made by simple majority.</p>
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Subject	1931	1976
Rights and powers of panchayats	<p>In general, rights and powers are similar to those of forest officials:</p> <ol style="list-style-type: none"> 1. Rule breakers are fined up to Rs. 5. 2. For offenses where the fine should be higher, the panchayat can file court cases against rule breakers. 3. Fees may be levied from users for fodder, grazing, fuelwood, or construction stones. 4. Grazing in the panchayat forest can be regulated, and animals that are found in the forest in contravention of rules may be impounded. 5. Cutting implements used in contravention of panchayat rules may be confiscated. 6. Users who break rules regularly may have their rights restricted or suspended. 7. Guards may be appointed to monitor and enforce rules. <p>All fines imposed by the panchayat are treated as government dues and recoverable using similar procedures.</p>	<p>f. Special officers appointed to supervise van panchayats must oversee at least a third of panchayats each year.</p> <p>g. Van panchayat accounts can be audited.</p> <p>In general, rights and powers are similar to those of forest officials:</p> <p>Rules 3, 4, 5, and 6 remain the same.</p> <p><i>Further Restrictions:</i></p> <ol style="list-style-type: none"> a. All appointments by the van panchayat require the approval of the Deputy Commissioner. b. At least 20 percent of the area of the van panchayat is to be set aside from grazing. Land may be leased for commercial use. c. Fines on individual rule breakers may be compounded up to a limit of Rs. 50 with their permission and up to Rs. 500 with the permission of the Deputy Commissioner. Court cases may be filed against rule breakers. d. No more than one tree may be granted to a rightholder without the written consent of more than half the panches and the stamp of Sarpanch. <p>Same as before.</p>
Elections	<p>Panchayat officials are elected for three years. New elections are to be held every three years.</p> <p>1. All income from the sale of forest products is allocated to rightholders as assigned to the van panchayat.</p> <p>2. All income from the sale of resin is to be allocated in accordance with proportions determined by the Conservator of Forests (in practice it went to van panchayat).</p> <p>3. Income from the sale of forest products (such as timber, resin, minor forest produce) to non-rightholders was assigned to the van panchayat.</p>	<p>Panchayat officials are elected for five years. New elections are to be held every five years.</p> <p>Rule 1 remains the same.</p> <p><i>Modifications:</i></p> <ol style="list-style-type: none"> a. The Forest Department is to deduct 10 percent from all gross revenues of the van panchayat as its share to meet administrative expenses. b. Net income from commercial sale and auctions is to be deposited in a Panchayat Forest Fund managed by the Deputy Commissioner. c. Twenty percent of the net income is allocated to the District Council to meet development costs. d. Forty percent of the net income is allocated to the Forest Department to maintain and develop panchayat forests. e. The remaining 40 percent of net income is allocated to panchayat to be spent on works of public utility as approved by the Deputy Commissioner.
Allocation of income		

Subject	1931	1976
Formation or dissolution	1. Two or more residents can propose the formation of the van panchayat for a village. 2. The Deputy Commissioner can dissolve a panchayat in case of repeated mismanagement or rule infractions.	Rule 2 remains the same: <i>Modifications:</i> 1. One-third of the villagers must propose the formation of the van panchayat.
Membership	1. At least three, and at most nine, members are elected to the van panchayat by villagers. 2. Panches select their leader as Sarpanch. 3. Panches can force the resignation of individual members by a majority. The empty position can be filled from among right-holders by a majority decision of the panches. 4. All village residents and others who possess rights in the forest can be right-holders in the panchayat forest.	1. Five to nine members to be elected to the van panchayat. 2. The Deputy Commissioner can nominate one member to the panchayat. 3. The Sarpanch can be removed from office by one-third of the members, provided this step is approved by two-thirds of the members in a subsequent meeting. Rules 1, 3, and 4 remain the same. <i>Further Restrictions:</i> a. See modifications c, d, and e under "Allocation of Income."
Rules regarding resin extraction	1. The Forest Department is responsible for harvesting resin from chir pine trees. 2. Profits are shared between the Forest Department and the panchayat in proportions to be determined by the Forest Conservator. 3. Panchayat can harvest resin in accordance with rules laid down by the Forest Department. The resin can be sold to either the Forest Department or registered buyers.	

Rules laid down by government

4. Panchayat members can harvest resin for domestic use.
 1. Panchayat forest land cannot be sold, mortgaged, or subdivided.
 2. The products and proceeds from the sale of products of the panchayat forest are to be used for the benefit of the community.
 3. The panchayat is to protect the forest and its trees (but with no explicit restriction on commercial sale of trees or timber).
 4. The panchayat is to prevent villagers from cultivating the panchayat forest land.
 5. The panchayat is to demarcate the forest area. The panchayat is to maintain minutes of meetings and records of accounts and make decisions in regular meetings.
 7. The panchayat is to follow the instructions of higher revenue officials.
 8. The quorum requires two-thirds of the members of the committee to be present.
 9. All decisions are to be made by simple majority.
- e. The panchayat must prepare annual budgets and submit an annual report to the DFO each year.
- Forests.
- Rs. 5,000 must be approved by the Conservator of Forests, the permission of the DFO must be obtained. If the value of the auctioned products exceeds Rs. 5,000, the DFO must be present. All auctions above Rs. 5,000 must be approved by the Conservator of Forests (CF). Any sales of forest produce must be in accordance to the working plans prepared for the van panchayat by the Forest Department.
- d. For commercial sale or auction of forest products (fodder, grass, minor forest products, firewood, timber), the permission of the DFO must be obtained.
- c. All extraction of timber beyond one tree requires permission from the Deputy Commissioner, Divisional Forest Officer (DFO), and the Conservator of Forests (CF). Any sales of forest produce must be recorded and a copy submitted to the deputy commissioner.
- b. The panchayat is to meet at least once every three months; proceedings of the meeting are to be recorded and a copy submitted to the deputy commissioner.
- a. All decisions of the panchayat are to be made by two-thirds vote.
- Further Restrictions:*
Rules 1, 2, 4, 5, 6, 7, and 8 remain the same.

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Elections	<p>Panchayat officials are elected for three years. New elections are to be held every three years.</p>	<p>Panchayat officials are elected for five years. New elections are to be held every five years.</p>
Allocation of income	<ol style="list-style-type: none"> 1. All income from the sale of forest products is allocated to rightsholders as assigned to the van panchayat. 2. All income from the sale of resin is to be allocated in accordance with proportions determined by the Conservator of Forests (in practice it went to van panchayat). 3. Income from the sale of forest products (such as timber, resin, minor forest produce) to non-rightsholders was assigned to the van panchayat. 	<p>Rule 1 remains the same.</p> <p>Modifications:</p> <ol style="list-style-type: none"> a. The Forest Department is to deduct 10 percent from all gross revenues of the van panchayat as its share to meet administrative expenses. b. Net income from commercial sale and auctions is to be deposited in a Panchayat Forest Fund managed by the Deputy Commissioner. c. Twenty percent of the net income is allocated to the District Council to meet development costs. d. Forty percent of the net income is allocated to the Forest Department to maintain and develop panchayat forests. e. The remaining 40 percent of net income is allocated to panchayat to be spent on works of public utility as approved by the Deputy Commissioner.

Table 3.1 (continued)

Table 3.2
Basic statistics on the Dhauladevi and Lohaghat forest councils

Name of Forest Council	Area of Forest (hectares)	Distance from Road (kilometers)	Elevation (meters)	Number of Households
Pokhri, Almora	20	0.5	1,100	10
Tangnua, Almora	11	0	2,000	21
Kana, Almora	25	0	2,000	25
Kotuli, Almora	35	0.5	1,700	50
Bhagartola, Almora	63	1	1,900	70
Lada, Pithoragarh	33	1	1,750	30
Kadwal, Pithoragarh	21	0	1,700	15
Jogabasan, Pithoragarh	74	1	1,800	15
Goom, Pithoragarh	80	1	1,750	75

forests is concerned. The one exception is Jogabasan, which has only 15 households but whose forest area is 74 hectares. With nearly 5 ha of community forest per household, its residents have exceptionally high access to forest resources and possibly among the highest forest endowment in the districts of Almora and Pithoragarh. Many forest councils have an average of less than 1 ha of forest per household.

Table 3.3 is arrayed slightly differently in comparison to table 3.2. Table 3.3 starts with the council that has the smallest number of households (Pokhri). The rest of the councils are listed in order of ascending size, with the council that has the largest number of households (Goom) in Pithoragarh with 75 households) at the bottom of the table. If we look at table 3.3, which provides summary figures on the operations and budgets of the nine councils, we find that the small councils are not doing as well as the large councils. This is especially true for the budgets of the councils but also to some extent for the number of times they meet each year.

Clearly, the small number of households has some major implications. Consider the first six councils. We can classify them as small since none of them have more than 30 households. The average annual number of

Table 3.3
Institutional information on the Dhauladevi and Lohaghat forest councils

Name of Forest Council	Number of Households	Year of Formation	Meetings per Year	Annual Budget for Protection (Rs)	Contribution per Household (Rs)
Pokhri, Almora	10	1989	2	200	20.00
Kadwal, Pithoragarh	15	1963	4	110	7.33
Jogabasan, Pithoragarh	15	1962	7	50	3.33
Tangnua, Almora	21	1988	4	175	8.33
Kana, Almora	25	1991	4	410	16.40
Lada, Pithoragarh	30	1970	5	350	11.67
Kotuli, Almora	50	1962	8	1,750	35.00
Bhagartola, Almora	70	1939	12	3,100	44.3
Goom, Pithoragarh	75	1962	6	1,645	21.9

Note: At the time of fieldwork, 33 Rs. equaled 1 US dollar.

meetings for the councils from Almora—Kana, Pokhri, and Tangnua—lies between two and four. The average number of meetings for all the six councils in the small category is just greater than four. Of the three councils from Pithoragarh in this group, only one has a large number of meetings—Jogabasan, with its average of seven meetings a year. The main reason that Jogabasan has such a high number of meetings is that it has a large forest and its members are attempting to raise funds by selling some of the trees through the Uttar Pradesh Forest Corporation. But because they have not received much cash yet, they have relatively little to spend on protection. For the larger councils—Kotuli, Bhagartola, and Goom—the average number of meetings ranges between six and 12, with a group average of more than eight meetings a year. This average is almost double that of the councils in the small group.

Data from the meeting records of the smaller councils indicate that they have also been relatively lax in creating rules to guide user behavior and ineffective in enforcing rules. Thus, while the meeting records of Bhagartola and Kotuli contain lists of rule breakers, the dates when the council forest guard detected rule violations, and the amounts levied as fines, the minutes of meetings in Pokhri, Kadwal, Tangnua, and Kana are

beret of these details. By looking at the records, one might conclude that no rules were ever broken in these four councils. Yet in interviews and informal discussions, the members of the councils talked about limited resources and the problems they faced in monitoring rule infractions. The absence of rule breaking in formal records is an indication of lax local supervision and enforcement (see also Agrawal, 1994, 277). Both Lada and Jogabasan in Pithoragarh, the two other small councils, are attempting to enforce some of the institutional rules for protecting the forest. They are facing difficulties, however, in raising the necessary funds for enforcement. Goom, which is the largest council in Pithoragarh, has six meetings each year. Again, its meeting records contain various details about rule violators in contrast to the smaller councils in Almora.

In part, these differences in the organizational performance among the councils may simply indicate differences stemming from age. At first glance this seems especially true of the councils in Almora. The three councils that are not doing well organizationally—Pokhri, Tangnua, and Kana—are all young. Their officials and their members may need more experience: in working with government officials, in interacting with each other, and in forming and enforcing rules. They may not yet have been able to establish a core set of procedures to guide daily activities. The data from Pithoragarh councils partially corroborate this view. At least Lada and Jogabasan, which have been in existence longer than the three small Almora councils, attempt to get together and create rules. Thus the performance of the councils may be a result of experience over time.

But overall, there are several problems with this explanation. In Pithoragarh, all the four councils were born around almost the same time (see table 3.3). If age were the primary explanatory variable, it is not clear why Goom and Lada seem to be doing somewhat better than Kadwal and Jogabasan. The Goom forest council seems to be doing far better than the other three councils in Pithoragarh despite being born at the same time. A closer look shows further problems with the explanation relying on age. Records for meetings of the Bhagartola and Kotuli forest councils are available for analysis. These records reveal that the councils met regularly and often and crafted a variety of rules right from birth. Their current organizational capacity certainly has developed over a period of time, but this cannot be taken to deploy time alone as the ex-

planatory variable. A more favorable institutional and political climate in the earlier period might have helped establish the authority of the older councils and may still be playing a role in their continued survival and success. However, the current macroinstitutional environment has existed at least since 1976 when the Council Rules were modified. It is difficult to accept that the effects of a supportive environment could still be lingering. Equally important, it is also necessary to understand how the activities and the processes within the councils relate to the macro-environment rather than leaving the explanation to undefined historical changes.

A second difference that distinguishes the six small councils (Pokhri, Tangnua, and Kana in Almora, and Lada, Kadwal, and Jogabasan in Pithoragarh) from their larger counterparts is their meager budget. During the course of their existence the small councils have seldom been able to raise more than Rs. 750 a year to meet their expenses. If we examine only the protection budgets of these councils for which figures are presented in table 3.3, the situation is even worse. Whereas none of the small councils raise more than Rs. 500 a year on the average for protection, Kotuli, Bhagartola, and Goom routinely raise around Rs. 1,500 to 3,000 for safeguarding their forests. Since all councils need money to hire a guard or must be able to raise volunteer labor from members to substitute for the guard, the level of budget and contributions from members become crucial elements in the successful functioning of the councils. Higher aggregate contributions from member households increase the capacity of the councils to hire guards and enforce rules.

To some extent, the ability of households to contribute to the forest councils relates in a circular fashion to the condition and type of vegetation in the forest itself, making conclusive assertions hazardous. If villagers receive little benefit from the forest, they will have little incentive to contribute to protect the forest. In a vicious cycle, then, the degraded condition of forest will worsen still further, discouraging future contributions. Too much, however, should not be made of such a connection. In a condition of generalized poverty in the hills, where few, if any, of the households can be viewed as prosperous or even reasonably well off, why do we find "institutional robustness" (Ostrom, 1990) in some cases and miss it in others?

In the case of the forest councils, the vicious-cycle explanation is somewhat off the mark. The per capita forest area in the case of all the councils is low, but no lower for the smaller councils than for the larger ones. In addition, more than a third of the residents in the hill villages, including the small villages, must initiate the process of forming the council. Most of the other villagers in our cases were willing to experiment. Villagers find significant proportions of their subsistence needs for fuelwood, fodder, and construction timber in the council forests. Thus they are quite dependent on forests for their survival. Finally, even in the smaller villages, there have been some contributions to the council coffers—all of these indicate that the problem is somewhat different from what the postulation of a "vicious cycle" suggests. It is related more to the inability of small groups of poor households to generate a surplus for protecting commonly owned and managed resources, rather than to their unwillingness.¹⁰

The success of the larger councils is reflected in the greater number of meetings held each year, the larger budgets and the higher levels of monitoring and enforcement, and even in a relatively higher level of vegetation in their forests. The figures in table 3.4 are revealing in this regard. The numbers for the column "Total Wood Volume (cubic meters per hectare)" show that the forests of the larger councils are in a somewhat better condition than those of the smaller councils.¹¹ Kotuli, Bhagartola, and Goom each have more than approximately 300 m³/ha of wood volume. The smaller councils have a lower level: on the average about 200 m³/ha.¹²

As one would expect, this is not true, however, for the number of stems per hectare. Certainly, the average number of stems for the smaller councils is about 1,160, in comparison to the average for the large council forests, over 1,650. But these averages mask variation within the group of small and large councils. Tangnua, a small council, has more than 2,000 stems per ha, but Goom, the largest council, has only about 700 stems per ha. Overall, the lack of new chir seedlings in all the Pithoragarh forests is a cause for concern. In Almora district, Bhagartola and Kotuli have a large number of stems per hectare among the large councils, but so do Kana and Tangnua.¹³ Kotuli and Bhagartola also have a high volume of wood, and in their case it might be argued that the condition of

Table 3.4
Vegetation data for the investigated sites

Name of Forest Council (number of sampled plots)	Trees per Hectare	Mean Diameter at Breast Height of Trees (meters)	Mean Height of Trees (meters)	Total Wood Volume (cubic meters per hectare)	Number of Species (major species)
Pokhri, Almora (16)	1,096	0.182	9.3	265	5 (chir)
Kadwal, Pithora (16)	688	0.160	12.3	170	3 (chir)
Jogabasan, Pithora (16)	641	0.135	12.3	113	6 (chir)
Tangnua, Almora (9)	2,082	0.133	6.1	176	8 (chir)
Kana, Almora (20)	1,736	0.150	8.0	245	23 (urees, chir, aiyar, bani)
Lada, Pithora (12)	760	0.225	8.9	269	2 (chir)
Kotuli, Almora (26)	2,446	0.167	6.3	338	11 (bani, chir, deo- dar)
Bhagartola, Almora (18)	1,818	0.176	7.7	341	11 (bani, aiyar, chir)
Goom, Pithora (16)	697	0.264	9.2	351	5 (chir)

the forest is a result of better monitoring and enforcement since they have had community forests for a long time. Because the forests of both Kana and Tangnua have been under council management only for a short while, it is hazardous to venture about the large number of stems being a result of council management, especially when the records of these two councils do not provide evidence of careful management.

Implications of the Study

The salient features of the situation can be summarized. A number of villages in Kumaon compete with each other to subsist on the available forest resources. Of these villages some have formed local forest councils under the auspices of the Forest Council Rules of 1931. These forest councils have experienced varying degrees of success in protecting their forests. The per household endowment of forest resources is similar across the selected cases. But the absolute size of the councils varies, both

in area and number of households. The rural context is unremittingly one of high levels of dependence on forests and low levels of income. Smaller forest councils have found relatively less success in protecting their resources. This last finding of the study is worth considering at greater length.

According to most writings that explore the relationship between collective action and group size, the probability of collective action becomes progressively bleak as group size increases. The data on nine forest councils indicate, however, that smaller groups may find it too arduous to create viable institutions that will persist over time to encourage collective action. The larger forest councils, on the other hand, found it relatively easier to create and maintain processes that would organize their members and ensure their contribution to forest protection.

Two reasons can be advanced to explain the success of larger forest councils. Each relates to protection of forests from unauthorized users and uses. To protect forests successfully in a context of generalized pressure on resources, councils need guards who will enforce rules. But guards who will monitor the condition of forests and prevent rule infringements cannot be hired without a minimum level of surplus. The smaller communities of poor peasants find it difficult to contribute even the relatively modest amounts that are necessary to hire a guard. As group size increases, it becomes easier to organize a surplus and commit it to enforcement and monitoring (Thompson, 1977; Agrawal, 1992).

Second, smaller councils also find it more difficult to prevent residents of other villages from coming and breaking rules related to forest use. In any dispute with residents of other villages, they command fewer resources that would enable persistence in imposing sanctions on rule breakers,¹⁴ especially in the absence of adequate support from the Revenue Department and other higher authorities. If a village population cannot raise sufficient resources to hire a guard to detect and prevent rule infractions, it is unlikely to possess the resources needed either to influence higher-level government officials or to move the notoriously slow Indian judicial system to resolve disputes. Thus, on both counts—hiring a guard and influencing higher-level enforcement mechanisms—smaller councils are disadvantaged.

The finding that relatively larger groups found it easier to protect their forests successfully permits an engagement with the impressive theoretical literature on the relationship between group size and the probability of collective action. Before Mancur Olson's celebrated *The Logic of Collective Action* in 1965, Buchanan and Tullock (1962) inquired into the circumstances under which rational individuals would organize themselves to produce collective goods. Their discussion, however, assumes well defined and enforced property rights and focuses primarily on the internal dynamics of a group rather than on the results of competition between asymmetrically sized groups. In the situation in Kumaon, it is precisely the delineation of property rights over forests and their enforcement that is an issue of contention.

Olson's seminal work points to the importance of group size itself in determining whether collective action will be undertaken. According to him, "Unless the number of individuals in a group is quite small, or unless there is coercion or some other special device to make individuals act in their common interest, *rational self-interested individuals will not act to achieve their common or group interests*" (1965, 2, emphasis in original). Focusing on the internal dynamics of groups by examining the motivations of individual members, Olson shows that groups will form to supply collective goods only under restricted conditions—and that these conditions are more likely to be met in small rather than large groups. As he puts it, "The larger the group, the farther it will fall short of providing an optimal supply of a collective good" (1965, 48).

In the wake of Olson's work, a number of studies have focused on the impact of group size on collective action. Hardin (1982), for example, summarizes earlier works (Buchanan, 1968; Chamberlin, 1974; Frohlich and Oppenheimer, 1970; Guttman, 1978; Hardin, 1971) to disentangle the effects of the nature of the good, the relation between the costs of collective action and the benefits of the collective good per group member, and the likelihood of collective action. A large number of later studies have also tried to relate the possibility of collective action with group size, heterogeneity of member interests, reciprocity and interdependence, and marginal per capita returns from the provision of collective goods (Isaac, Walker, and Williams, 1994; Komorita, Parks, and Huibert, 1992;

Massey, 1994; Oliver and Marwell, 1985, 1988; Rapoport, Bornstein, and Erev, 1989; and Yamagishi and Cook, 1993). These studies have substantially enhanced our understanding of the impact of group size on collective action and of collective action more generally.

The example of the forest councils in Kumaon, however, highlights some of the aspects of the relationship between group size and collective action that merit greater attention. The following discussion extends existing studies of collective action by making two additional points: it calls into greater focus the external dynamics of a group with other groups, and it makes a distinction between the forming of a group and achieving the objectives for which the group was formed.

Most existing studies have focused only on the internal dynamics of the group—the relationship among group members. Following Olson's forceful focus on the rational, self-interested individual as the constituent unit of all groups, later studies have also focused primarily on the individual and his or her relationship to collective action. In the process, they have ignored the impact of external relationships of a group with other groups. They have seldom considered how in a situation where different groups and their members compete for resources with other groups and the members of other groups, surely a widespread phenomenon, group size may be positively related to successful collective action, at least for some range.¹⁵

The logic is devastatingly simple, almost "tautological," as Hardin characterizes part of Olson's argument (1982, 38). Most villages in the Kumaon hills already exist as groups. Individuals are born into these groups. The choice they face is not whether to join a group. Rather, they must choose *not* to join a group of which they are already a member by virtue of birth. Their calculus is not about the costs of joining; rather, it is about how expensive it would be not to join. In this situation, where individuals find it costly to leave the group rather than to join, it is obvious that informal groups will exist easily. The question is why among these informal groups one would find that the larger ones are more successful.

While villagers already existed as groups before the Forest Council Rules of 1931, the passage of the Rules lowered the costs of constituting the village as a formal legal entity to protect the local forests. Government officials from the Revenue and the Forest Departments encouraged villag-

ers to form councils. If villagers agreed to do so, they could bring forests under the control of the Revenue Department under their own control. Further, owing to the scarcity of forest products in the hills, villagers are often forced to harvest them in violation of existing rules protecting community forests. In the "drab everyday struggle" (Lenin, 1902, rpt. 1976, 93) to protect their resources from others, it is not surprising that larger councils gain greater success than smaller ones.

Larger groups are more successful in two senses. First, a group that gains in size as more villagers participate in its activities is better able to raise more resources and expend a greater monitoring and enforcement effort. Second, if there are a number of different groups, some larger than others, the larger groups are more likely to be successful.¹⁶ Both these propositions rely on an additional distinction between organizing collective action and success in achieving the objective of collective action.

Many studies of collective action assume, almost by default, that success in organizing a group (or collective action) and success in meeting the aims for which the group (collective action) is organized are one and the same thing. Under many conditions, the distinction is unnecessary—perhaps the reason that this particular obfuscation has survived so long. Successfully organizing a march to protest abortion rights is synonymous with succeeding in the objective of organizing a march. But if the objective of the marchers is to overturn *Roe v. Wade*, then success in organizing the collective action (marching) is quite distinct from success in achieving the objective of collective action.

In the case of the forest councils, successfully forming a group to protect village forest resources is a very different proposition from succeeding in protecting the forests. Success in forming a group may come easier to smaller groups, but success in protecting resources is easier for larger groups. What we should note is that successful collective action is not just about forming groups; it is as much about being successful in achieving the objective for which the group was formed.

The above distinction is not the same as the difference between initiating and maintaining collective action. To take the example of the forest councils again, forming a council is distinct from making sure that meetings are occurring regularly, which in turn is different from protection of the local forests. The difference between initiating and maintaining

collective action necessarily depends on a temporal disjunction. But the difference between organizing collective action and achieving the objective for which the action was undertaken may or may not possess a temporal dimension. Once this distinction is made, it is easy to see that while small groups may find it easier to organize themselves, a larger group may find it easier, in comparison, to succeed in its objective, especially where protection from outsiders is concerned. The logic also operates at the level of the calculating individual. Villagers, discovering that smaller groups find it harder to protect forests from rule breakers, may well calculate that it does not make sense to continue to contribute to an unsuccessful council's demands for revenue.

If it is true that as group size increases, the likelihood of successful collective action is also likely to increase (at least for some range), the natural question is whether continuing increases in size would, at some point, begin to lead to a decline in the probability of successful collective action. It seems unlikely that groups could continue to grow *indefinitely*, even if continued growth is positively related to greater success in the achievement of objectives.¹⁷ The studied cases have little to say about the effect of extremely large size on the probability of success. But ultimately, the costs of coordination are likely to increase sufficiently that they would outweigh benefits from increases in size. The exact point at which this would take place is, however, a function of the context in which groups operate. In the Indian Himalaya, where natural factors such as uneven topography, limited water availability and arable land, and constraints on forest-products supply restrict the growth of villages beyond a certain size, the costs of coordination in existing villages are unlikely to be extremely high. Most villages are smaller than 200 households. One can then hypothesize the following: In small communities of poor users who use common-pool resources for subsistence, the likelihood of collective action to protect local resources increases as group size increases. It may however decline as the group becomes very large and creates high costs of coordination.

The latter part of the hypothesis is based on the existing literature on collective action rather than on the data from the studied cases that provide only indirect indication of what might happen to the likelihood of successful collective action as groups become extremely large. It is be-

cause coordination costs will be very large for dispersed groups that small villages are unable to join each other to form larger forest councils. For example, Pokhri, Tangnua, and Kana are more than 6 km away from each other. They lack incentives to form a large joint council.

Conclusion

In conclusion, it may be useful to point to some practical relevance of the research. The findings reported here become significant in light of the most recent trends in forest policies in a number of countries that are attempting to take recourse to community-based conservation in an effort to move away from centralized exclusionary policies that seem to have failed. In a number of statements issued between 1988 and 1995 the central Indian government and the governments of more than 17 Indian states have sought to increase local participation in the management of Indian forests (SPWD, 1992). These Joint Forest Management statements constitute a break from the colonial forest policy that had continued in most parts of India, with only a few minor changes, even after independence. Yet the changes introduced today are far more timid than the British Forest Council Rules of 1931 that this chapter examines. Most state policy statements allow local populations only a partial share in the benefits from protecting forests and do not permit them a voice in crafting the rules whereby the forests would be managed (SPWD, 1992; GOI, 1992, 1993). Without local mechanisms to ensure adequate protection, funded through local sources of revenues, it seems unlikely that the proposed cooperation between state governments and the local communities will be fruitful.

In addition, the research indicates that where groups are very small and compete for a share in local resources, their performance in protecting resources may improve if government policies create institutional incentives for smaller groups to join together. The attempts of very small groups to protect their resources may founder because of their limited ability to raise a surplus that would enable effective local monitoring and enforcement. At the same time, if small groups are highly dispersed, the external environment may prevent the formation of institutions that could help the coordination of resource management and protection.

The relevance of the research for India is evident in the context of a declining forest base and changing forest policies. The research is also significant in the context of the emerging international debate over the criticality of local communities and indigenous institutions in managing forests. The example of the forest communities in the Indian Himalaya suggests that autonomy to local communities may need supplementary arrangements that will help protect local resources by the creation of user groups that are not too small to protect their resources. Such arrangements might also encourage dispute resolution among users.

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Notes

1. The causes for the emphasis on local institutions may lie in the demonstrated deficiencies of state-directed development and the inability of markets to promote sustainable use of common resources. A large literature documents the vigorous debate on the merits and problems of pursuing development and conservation

goals through state- or market-led policies. For useful introductions see Bates (1981, 1989), Wade (1990), and Wolf (1988).

2. For a discussion of the relationship between renewable resource scarcity and social tensions, see Gleick (1989), Homer-Dixon (1991), and Westing (1986).
3. See Escobar (1991, 1992), Scheper-Hughes (1992), Scott (1985), Shiva (1988), and Trainer (1985) for some critiques of market- and state-led development and conservation policies that ignore the interests of the subaltern groups. The theoretical literature that stresses the necessity of addressing local interplays of power and resistance often finds its inspiration from the works of Michel Foucault (see especially 1978, 1991a, 1991b).
4. The very largest council in the sample also finds it difficult to organize successfully, and rather than treating that as an exception, I try to adduce some reasons at the end of the chapter about why this might be the case.
5. According to Somanathan (1989), these Rules only formalized the control many hill communities had exercised over their forests before the arrival of the British. Their informal institutions were called *Lattha Panchayats*. *Lattha* means "big stick," and the name evocatively denotes the power the local community held over its members.
6. Thus they seem to meet many of the design principles that are characteristic of successful community institutions as discussed by Ostrom (1990).
7. The 30 chiefs of the councils listed a total of 97 problems. Of these, 31 (32 percent) related to the low income of their councils, 22 (23 percent) to inadequate support from higher-level government officials, and 44 (45 percent) to local-level rule infringement and problems in monitoring and enforcement.
8. The selected councils have been picked from two of the development blocks (one in Almora and the other in Pithoragarh) where I conducted research.
9. The selected sites were chosen randomly out of the 11 villages in the watershed around Jageshwar that possess their own council forests and councils.
10. Even if the problem relates to lack of incentives to contribute in the smaller communities, the larger argument in this chapter holds: smaller groups find it more difficult to organize collective action successfully.
11. Since the forest councils of Kana, Pokhri, and Tangna have formed only recently, the condition of the vegetation in their forests, unlike the cases of Kotuli and Bhagartola in Almora and all the four councils in Pithoragarh, cannot entirely be attributed to how the council functions. But the relatively lax enforcement of rules in the six smaller councils implies that the likelihood of improvement in the condition of their forests is small.
12. The calculations for the woody biomass are extremely rough. I have taken the volume of woody biomass in a hectare as the number of trees in a hectare, multiplied by the average area of the cross-section of trees at basal height (using diameter at basal height), times the average estimated height of the trees in the hectare. Since the procedure I used is the same for all forests, the volume of woody

biomass can be taken as being comparable across the council forests rather than indicating correct absolute values.

13. All the forests in Pithoragarh have a relatively small number of trees. Part of the reason for the small number of trees in Pithoragarh is that the forests seem to contain mature chir pine (*Pinus roxburghii*). As chir matures and creates a thicker layer of needles on the forest floor, it becomes harder for other species to thrive.

14. Resources in the form of labor and monetary contributions may be necessary to either discourage local rule infractions or resolve disagreements by arbitration or civil suits.

15. Rapoport, Bornstein, and Erev (1989) do consider how differences in group size may affect the probability of collective action when such groups are competing with others. On the basis of their experimental results, they conclude that group size does not have any effect on the provision of collective action. However, the group size for their experiments varies between three and five. It seems hasty to draw the conclusion that group size does not have an impact on the probability of successful competition on the basis of such minimal variance in group size.

16. In this second sense, the proposition has also found a defense from Dahl and Tufté (1973, 20–21) in their discussion of "system capacity."

17. Of course, companies vying for a larger market share certainly believe that the larger the company's control over the market, the more successfully it will outcompete its rivals.

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