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Successful Collective Action among Village Forest Management Institutions in the Indian Himalayas

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Introduction

An increasing number of scholars, development practitioners, and environmental activists today present micro-institutional solutions as the remedy for renewable resource scarcities. Their arguments have helped to shift attention away from market and state oriented policies as the only two alternatives for development and environmental conservation (Anderson and Grove 1987, Ostrom 1990, and Ostrom, Schroeder and Wynne 1993). The fresh claims on behalf of the local (Chambers 1983, Korten 1986, Schmink and Wood 1992, Uphoff 1986), the indigenous (Cultural Survival 1993, Denslow and Padoch 1988, and Richards 1985), and the "little community" (Hecht and Cockburn 1990, Scott 1976, Wade 1988) represent a long overdue move.

The growing focus on community institutions and indigenous voices recognizes the rupture between the interests of local populations, national governments and/or international institutions. But even more appropriately, the focus on the local marks a shift from the preoccupation with the centralized, over-arching, solutions of the past decades that failed to reverse, and may indeed have contributed to, environmental problems. The attention to local spaces and communities fundamentally changes the conversation on development and conservation. The ensuing study builds upon the insight in this literature by examining the relationship between group size and successful collective action. Contrary to conventional wisdom in the social sciences (Hardin, 1981; Olson, 1965), I question the presumption that smaller groups are likely to be more successful than larger groups.

The study analyzes village *van panchayats* (forest management councils) in Almora district in the Indian Middle Himalayas. These community level councils, many of them in existence since the 1930s, help residents utilize and protect forest resources in accordance with rules they themselves craft and attempt to enforce. I first describe the process behind the birth

of *van panchayats* and resource use in 5 *van panchayats*. I then discuss some significant theoretical reasons why larger groups may be more successful in managing their forests. In examining the relationship between group size and collective action, the study makes two major departures from the norm. Much writing on collective action focuses on the internal dynamics of a group. This paper, rather, looks at the external dynamics -- 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 ideas, it constructs an argument to show how larger groups may be more successful than smaller ones.

The Forest Panchayats 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 village forest councils (*van panchayats*). The activities of *van panchayats* are the focus of the investigation.

The history of the *van panchayats* in the Indian Himalayas can be traced to the intrusions of the colonial British state in the early 1800s. From this period onward, the British government curtailed progressively the area of forests under the control of local communities (Guha 1990: 44-5). At the same time it also enacted elaborate new rules specifying strict restrictions on lopping and grazing rights, prohibited the extension of cultivation, sought to regulate the use of fire that villagers believed led to 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 (Ballabh and Singh, 1988; KFGC, 1922: 2). The often violent protests by village communities

forced the government to appoint the *Kumaon* Forest Grievances Committee to look into the local disaffection. On the basis of the Committee's recommendations the government passed the *Van Panchayat* Act of 1931. This act 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. (According to Somanathan (1989) the Act 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 a big stick, and the name evocatively denotes the power the local community held over its members.)

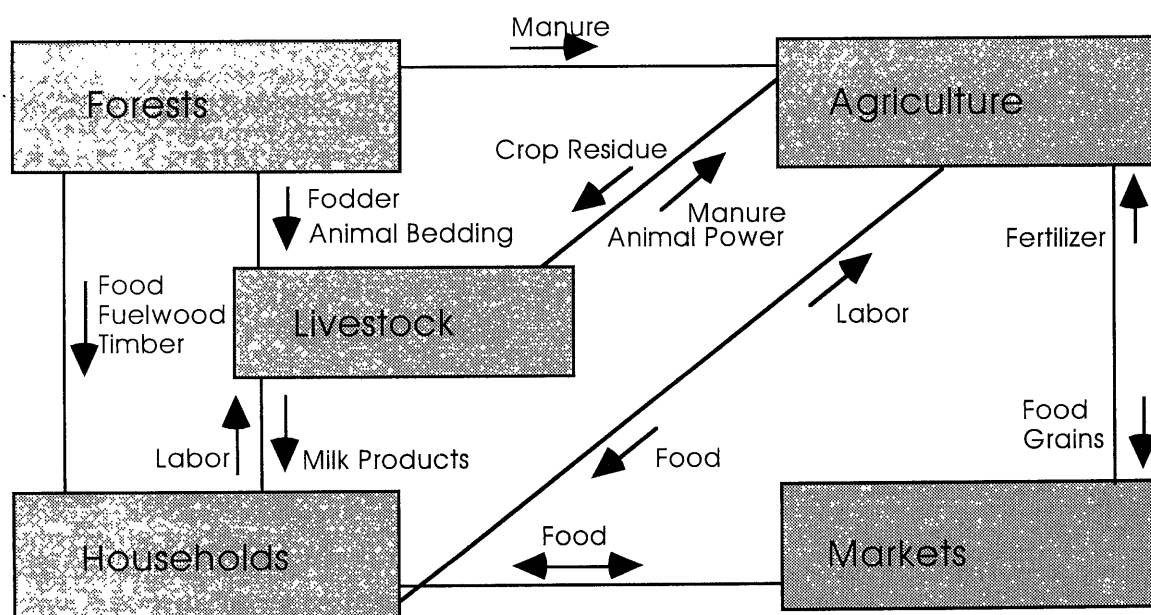
Nearly 3,000 forest *panchayats* today formally control 35% of the hill forests in *Kumaon*. Of these, nearly 1,700 exist in Almora alone (Agrawal 1995: 51). The broad parameters that define the management practices of these institutions are laid down in the *Van Panchayat* Act. But residents also meet frequently to discuss the rules that will govern extraction of benefits from forests and create monitoring, sanctioning, and

arbitration devices to resolve the majority of management questions at the local level (Agrawal, 1994). They elect their leaders from within the community, select guards to enforce rules, fine rule breakers, manage finances, and often distribute earnings for the benefit of the community.

Resources of the *Panchayats*

The most significant products villagers traditionally harvest from their forests are fodder, fuelwood, animal bedding, organic manure, and construction timber. Figure 1 outlines the importance of forests in the agricultural and subsistence economy by tracing the links between forest products villagers harvest and the kinds of needs such products fill. It is obvious that 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, *panchayat* forests containing chir pine (*Pinus roxburghii*) also yield resin for turpentine, a commercially valuable product.

Forests in the Hill Subsistence Economy



The revenues from the forest products are used to monitor and guard the resources, and to meet operational expenses of the *panchayat*. In some cases, councils have also had sufficient surpluses to create communal goods for their villages such as school buildings, or common utensils used to cook food for the community during festive celebrations.

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 *Panchayat* Act of 1931, as amended in 1976. The Act provides support for the *van panchayats* from the revenue and to the forest departments for rule enforcement and the maintenance of vegetation in the forests but it grants them only limited authority to enforce rules.¹ In 1976, the overall framework of rules within which councils operated became far stricter. Government officials assumed substantially higher control over the elected officials of the councils. In addition, new restrictions on day-to-day activities meant the councils could fine rule breakers only with the consent of the rule-breaker, or after securing the permission of higher level government officials. For major disputes they were required either to move the judiciary, or rely on aid from the officials of the revenue department.

As a result, over the last two decades, those forest councils that have few local resources at their command have been plagued by rule infractions (Agrawal 1994). 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 *panchayats*, 30 forest council chiefs listed problems related to inadequate supervision and local rule-breaking and monitoring 68% of the time. In

contrast, problems related to low incomes of the *panchayats* were mentioned only 32% of the time.²

At the same time, the officials of the revenue department who are supposed to help the *panchayats* must perform a host of other duties, including the maintenance of law and order, collection of taxes, and administration of various development projects. Most revenue department officials consider these duties to take priority over the tasks related to forest *panchayats*. For many forest *panchayats*, then, inadequate levels of enforcement and limited local resources are a major problem.

The Case Studies

Data on five forest councils form the basis for the ensuing discussion. All of them are located in the Dhauladevi Development Block of Almora District. They range in elevation from 1,100 to 2,000 meters; their forests lie between 1,400 and 2,100 meters. They are all close to motorable roads, and are thus more or less equally exposed to market forces. In all, about 25 villages are located in the watershed of the river *Jataganga* in *Dhauladevi* development block of which 11 possess their own community forests management councils.³ The rest depend on illegal harvests from the forests of their neighbors, and forests owned by the forest or the revenue department. The watershed represents the situation in most of the *Kumaon* region. Forest resources are scarce, and villages compete with each other for subsistence benefits from forests.

While the selected forest *panchayats* and their settlements are situated within the same ecological and administrative divisions, they differ significantly on their size, organization, age, and resource endowments.

¹ Ironically, it is the Indian state after independence that reduced the local authority of the *panchayats* even more than the colonial British state. Forestry and Revenue department officials, both groups felt that the Van *Panchayat* Act devolved too much authority on the villagers, and that the villagers had not been able to manage their forests well. In support of their arguments they pointed to cases where, they argued, locally powerful individuals had engaged in large scale felling and had been abetted in some cases by *panchayat* officials. Their arguments led the increased restrictions through amendments introduced to the Act in 1976.

² The 30 chiefs of councils listed a total of 97 problems. Of these 31 (32%) related to the low income of their council, 22 (23%) to inadequate support from higher level government officials, and 44 (45%) to local level rule infringements, and problems in monitoring and enforcement.

³ The selected *panchayats* were chosen randomly out of the 11 villages that possess their own community forests and *panchayats* in the Dhauladevi development block.

TABLE 1
Basic Statistics on the Five Dhauladevi Forest Panchayats

	Pokhri	Tangnua	Kana	Kotuli	Bhagar-tola
Area (ha)	37	56	379	139	179
Cropped area (ha)	12	14	230	36	59
Area of Van Panchayat (ha)	20	25	25	35	63
Distance from road (km)	0.5	0	0	0.5	1
Elevation (M)	1,100	2,000	2,000	1,700	1,900
No. of households (1993)	10	21	25	50	70

As Table 1 indicates, Pokhri and Tangnua are very small in area as well as number of households, and have formed their forest councils only recently. Kotuli and Bhagartola are relatively large. Kana, although it has a large aggregate area, still possesses only a small number of households. In Tangnua, the population has increased in the last two decades, but the number of households has remained more or less stable.

The average annual number of meetings for Kana, Pokhri and Tangnua lies between two and four. For Kotuli and Bhagartola it ranges between 8 and 12. Data from the meeting records of the first three councils indicate that they have also been relatively lax in creating rules to guide user behavior, and ineffective in enforcing the rules they have crafted. In part these differences among the five councils may simply indicate that because the first three *panchayats* are younger, their officials as well as members need more experience in working with government officials, in interacting with each other, and in forming and enforcing rules.

Such an explanation would be simple and attractive. Further examination, however, reveals its invalidity, at least for the selected councils. Records for meetings of

the Bhagartola and Kotuli forest councils reveal that they met regularly and often, and crafted a variety of rules right from the start. Their current organizational capacity certainly has developed over a period of time, but this does not mean that time is the explanatory variable for such capacity.

A more favorable institutional and political-economic climate in the earlier period that helped establish the authority of the older forest councils might still be playing a role in their continued survival and success. However, the current institutional environment has existed at least since 1976; perhaps, since Indian independence in 1950. It is difficult to accept that effects of a supportive environment have lingered on for 20 years or more, when everything around these village councils has changed. Further, it is important to understand how the activities and the processes within the *panchayats* relate to the macro environment rather than simply leaving the explanation to the passage of time.

A second difference that marks the first three councils is their low budget (see table 2).

TABLE 2
Basic Institutional Information on Forest Panchayats

	Pokhri	Tangnua	Kana	Kotuli	Bhargar-tola
Year of formation	1989	1988	1991	1962	1939
Average no. meetings/year	2	4	4	8	12
Total annual budget, 1990 (Rs)	300	500	670	1750	3800
Per household contribution (Rs)	30	24	27	35	54

During the course of their existence, Kana, Polchin, and Tanguua have seldom been able to raise more than Rs. 750 a year (Rs. 30.00 equal one US dollar) to meet their expenses. Nor has their capacity to raise contributions from villagers increased during their existence. Kotuli and Bhagartola, however, routinely raise between Rs. 2,000 and 4,000. Higher aggregate and per-household contributions from member households increase the overall capacity of the councils to hire guards and enforce rules. Since guards are typically paid around Rs. 200.00 to 250.00 a month, the smaller councils cannot hire a full time guard for the more than three to four months in a year.

To some extent, the ability of households to contribute to the forest councils relates back 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 protect the forest. In a vicious cycle, then, the degraded condition of forest will worsen still further, discouraging future contributions. Too much, however, can 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 *panchayats* the above explanation is simply off the mark. The per-capita forest area in all the *panchayats* is low, but no lower for the first three *panchayats* than for the Bhagartola and Kotuli, which are more successful. In addition, more than a third of the residents in all the five cases, including the less successful first three villages, initiated the process of forming the councils; most of the other villagers were willing to experiment. Villagers in all the five cases find significant proportions of their subsistence needs for fuelwood, fodder and construction timber in the *panchayat's* forests; and even in the smaller villages, there have been some contributions to the *panchayat* coffers. All this indicates that the problem is somewhat different from "vicious cycle" postulation. 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.⁴

⁴ It should be obvious that even if the problem is one of a lack of incentive to contribute in the smaller communities, the larger argument of the paper holds -- smaller groups find it more difficult to successfully organize collective action.

Implications of the study

The salient features of the situation can now be summarized. A number of forest *panchayats* compete with each other in incomes, high dependence on forests to protect and subsist on their scarce resources. While the per capita endowment of forest resources is similar across the *panchayats*, the smaller forest councils have somewhat unexpectedly been less successful in protecting their resources.

The success of the larger *panchayats* is reflected in the greater number of meetings held each year, the more rules crafted, the larger budgets, the higher levels of monitoring and enforcement, and even a relatively more dense vegetation cover. The figures for the "total tree biomass" in table 3 provide some limited indication that the larger forest *panchayats* have been more successful in protecting their forests.⁵ According to most writings that explore the relationship between collective action and group size, the probability of collective action becomes progressively bleaker as group size increases. The data on five forest councils indicate, however, that smaller groups may find it too arduous to create viable institutions that will persist over time to encourage collective actions, or to ensure member contributions to forest protection.

⁵ Since the Kana, Pokhri, and Tangua forest *panchayats* have formed recently, the condition of the vegetation in their forests, unlike the cases of Kotuli and Bhagartola, cannot entirely be attributed to the manner in which the *panchayat* has functioned. But the relatively lax enforcement of rules in the three *panchayats* implies there will be little improvement in the condition of the forest.

TABLE 3
Tree Biomass in Investigated Cases

	Pokhri	Tangnua	Kana (Para/Gare)	Kotuli	Bhagartola
Trees per Ha	1103	2104	1825/1160	2460	1826
Mean tree DBH (cm)	.1706	.1487	.117/.1423	.1646	.1572
Mean tree height (M)	7.1	4.5	5.9/8.1	5.3	6.3
Total tree biomass (cuM/ha)	179	166	116/149	301	205
No. of tree species	5	9	23/7	13	11
No. of plots sampled	16	9	11/9	26	18

Two reasons can explain the success of larger forest councils: each relates to protection of forests from unauthorized users and uses. To protect forests successfully from generalized pressure on resources, communities 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 communities 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.⁶ The problem becomes especially acute in the absence of adequate support from the revenue department and other higher authorities. If a village community 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 communities are disadvantaged.⁷

⁶ Voluntary labor and monetary contributions may both be necessary to discourage local rule infractions and resolve disagreements by arbitration or civil suits.

⁷ For the selected cases, the per capita material endowments and forest resources are similar across the villages. Were there large disparities in the ability of individual households to make contributions for hiring a guard, or in the amount of forest resources they controlled, it is indeed possible that smaller villages

The finding that relatively larger groups found it easier to protect their forests successfully permits us also to engage the impressive theoretical literature on the relationship between group size and the probability of collective action. 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, Olson suggests, "the larger the group the farther it will fall short of providing an optimal supply of a collective good" (1965: 48). Following Olson's forceful emphasis on the rational, self-interested individual as the constituent unit of all groups, later studies also focused primarily on the individual and his relation to collective action. In the process, they have ignored the impact of external relationships of one group with other groups.

The following discussion builds on existing studies of collective action by making two major points. It examines the external dynamics of a group with other groups; and second, it makes a distinction between the formation of a group and achieving the objective for which the group was formed.

The logic in considering external dynamics is devastatingly simple, almost "tautological", as Hardin (1981: 38) characterizes part of Olson's argument. Most villages in the hills already exist as groups.

could protect their forests better than the larger villages. In selecting the watershed of the river *Jataganga*, where villages possess roughly similar resources per capita, the study controlled for the impact of large differences in per capita forests and incomes and permitted a focus on the major variable of interest -- group size.

Individuals are born into these groups. The choice they face, then, is not whether to join a group. Rather, they must choose to *not* join a group of which they are already members by 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 more costly to leave the group, rather than to join, it might seem obvious that larger groups turn out to be more successful in protecting and managing their resources.

Larger groups are more successful in two senses. 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. Two, if there is a number of different groups, some larger than others, the larger groups are more likely to be successful. Both propositions in part rely on an added distinction between organizing collective action and success in achieving the objective of collective action.

Most studies on collective action have, by default, assumed that success in organizing a group (or collective action), and success in achieving the objective for which the group (or collective action) is organized, are one and the same thing. Under many conditions, the distinction is unnecessary -- perhaps the reason why the obfuscation of this difference has survived for so long. But in the case of forest *panchayats*, successfully forming a group to protect village forest resources is a very different proposition from succeeding in protecting these resources. And while success in forming a group may come easier to smaller groups, 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 about being successful in achieving the objective for which the group was formed.

If it is true that as group size increases, the likelihood of successful collective action may also increase, a natural question arises: "Would continued growth in size lead to lower likelihood of success at some point?" The exact point at which increasing group size would lead to higher coordination costs, however, depends on the context in which groups operate (See Buchanan and Tullock, 1962). In the context of the uneven topography of the Indian Himalayas, where natural factors such as limited availability of water, arable land and forests constrain the growth of villages, the costs of coordination in existing villages are unlikely to become extremely high. Most villages comprise less than 200 households. One can then hypothesize the following: *In small, similar, communities of poor users who use common pool resources for subsistence, the likelihood of successful collective action to protect local resources increases as group size increases. It may however, decline as group size becomes very large and creates extremely 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 which provide only indirect indication of what would happen to the likelihood of collective action as group size becomes extremely large. It is because costs of coordination would be very high for groups that are highly dispersed that smaller villages are unable to join each other to form larger forest management councils. For example, Kana, Pokhri and Tangnua are more than six kilometers away from each other. Very high costs of coordination form a significant obstacle preventing their attempts to form a joint management council.

Conclusion

In conclusion, it may be useful to point to some practical relevance of the research. The findings reported here draw significance from the most recent trends in Indian forest policy.⁸ In a number of statements issued between 1988 and 1995, the federal Indian government and the governments of 15 Indian provinces have sought to increase local participation in the management of Indian forests (SPWD 1992, Sarin 1995). These Joint Forest Management statements constitute a break from the colonial forest policy. Yet the changes introduced today are far more timid than the British Forest *Panchayat* Act of 1931 (Agrawal, 1995b). 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 adequate support from enforcement officials, and without local enforcement capacity to ensure adequate protection -- two provisions that are mostly absent from the pronouncements of the Joint Forest Management policies--prospects of success for the new policy remain bleak, especially when conflicts arise.⁹

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 of the poor to protect local resources may founder because of limited capacity to raise a surplus to enable effective local monitoring and enforcement. Finally, if small groups are also highly dispersed, the external conditions might make it

⁸ A number of governments in South Asia, including Nepal and Bhutan, are attempting to craft co-management programs with village communities for more effective forest use and protection.

⁹ The Indian central and state governments, in formulating the new forest policy statements, seem, thus, to have ignored the lessons that the history of the forest councils offers.

very difficult to create institutions through which they would coordinate their resource management and protection activities.

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 emerging international debate over the criticality of local communities and indigenous institutions in managing forests. The example of the forest communities in the Indian Himalayas suggests that autonomy for local communities must be supplemented by arrangements that will help protect local resources by creating user groups that are not too small, and will encourage dispute resolution within the same community and among users from different communities.

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View from Se La (Inner Dolpo, Nepal) Photograph by Kenneth Hanson, 1993

