Draft: Oct. 12,1996 Cite at your own risk A CONTRACTOR OF A CONTRACTOR O

Forest Management Under Common Property Regimes in the Kumaon

Himalaya

by

Arun Agrawal Visiting Scholar Workshop in Political Theory and Policy Analysis 220 Woodburn Hall Indiana University Bloomington IN 47408 Email: aagrawal@indiana.edu; gswyeiu@minerva.cis.yale.edu; mao@tcd.ufl.edu

Paper prepared for the Conference on 'Participation, People, and Sustainable Development: Understanding the Dynamics of Natural Resource Systems' at Tribhuvan University, Rampur, Chitwan, Nepal from March 17 to 20,1996.

Forest Management Under Common Property Regimes in the Kumaon Himalaya

by

Arun Agrawal

1. Introduction

This paper explores local level forest use and management in the Kumaon Himalaya. It seeks to situate the ongoing research on forest resource use in the Kumaon Himalaya in the context of a larger conversation on common property use and management in mountain regions.¹ More specifically, it examines why it is necessary to look at communities as relevant units of social organization for understanding resource use; the need to analyze the effects on resource use of stratification and differences within communities; and the importance of subjecting concepts such as "community," "local," and "indigenous" to further reflection and refinement.

In the last few years, scholars have realized that the Himalayan mountains, despite their majesty and grandeur, may be ecologically fragile owing to geological, biophysical, and human causes. Indeed, recent work on the Himalaya underlines nothing as much as the fact that our knowledge about the Himalaya is limited and uncertain. Scholars such as Bajracharya (1983), Carson (1985), Gilmour (1986), Hamilton (1987), Hofer, (1993), Ives and Messerli (1989), Mahat et al. (1986,1986a, 1987, 1987a), Thompson et al. (1986) and others have contested various aspects of the "Theory of Himalayan Environmental Degradation." They have done so by pointing to woefully inadequate and contradictory data and studies on biophysical and socio-economic processes in the mountains and the relationships among these processes.

In the wake of this comprehensive interrogation of accepted dogmas about resource use in the mountains, new issues for research have emerged that place local communities at the center of forest

resource management. While ethnographers had earlier worked extensively to present studies of local systems of resource management (Berreman, 1972; Von Furer-Haimendorf, 1964, 1975), an explicit focus on communities and user group forestry has emerged only in the past few years. This new focus reflects the perception that without extensive involvement and an emphasis on empowerment of Himalayan villagers, successful forest management is likely to remain a chimera.²

2. Effects of a Focus on Local Populations

The shift in perspective toward local populations, their interests, and their activities has at least three important effects, all salutary. First, local communities, instead of remaining incidental to resource management, become central and critical. Not only do local communities emerge as being the hubs around which patterns of resource use and management revolve, they are also potentially important *actors* who influence resource use. They, thus, can be seen as active agents, not passive victims of state policies and natural environmental forces. This is as it should be. As Ostrom and Wertime point out, "forest use, governance, and management is inherently local" (IFRI Research Program, 1993: 1). The impact of community level institutions and variables on resource management, in comparison to the effect of larger social structural factors such as state policies, population levels, market pressures, and so forth, comes then to the fore.

Second, a focus on local communities not only recognizes them as active agents, it also has the potential to discern differences among and within communities and examine how these differences affect resource use and management patterns. Communities can be relatively homogeneous and equitable or highly stratified and hierarchical, peaceful or conflictual, rich or poor, with access to high levels of renewable resources or limited access, well linked or isolated, rapidly changing or relatively stable. There is no single image of community under which different resource management patterns at the local level can be subsumed. These variations among communities can begin to receive attention only once

communities are perceived as critical to resource management. Similarly, until communities are seen to be significant actors in influencing the use of forests it is unlikely that scholars or policy-makers would focus on how differentiation within communities affects forest use, management and governance. The turn to community prepares the ground for further investigations around it.

Third, we can begin to unpack the meanings of a complex of concepts associated with the idea of community that have long been taken for granted, including "community" itself. Existing literature on the use and management of resources has taken as self-evident the meanings of such concepts as "traditional," "indigenous," "women," "local," and "community." Indeed, these notions have formed some of the building blocks to orient critical thought on resource management. Valorization of "community," "locality," "women," "indigenous" and related concepts was essential in a situation when they were hardly seen even as relevant to issues of resource use and when privatization and state control were seen as optimal institutional strategies for environmental protection and resource management. With the growing recognition that communities are stratified rather than harmonious units of social organization, one can begin to problematize concepts earlier taken for granted. Today, opening up "community," "local," "global," "gender," "indigenous," "tradition," or "participation" to discussion and debate shows the difficulty of using polarities such as tradition vs modernity, local vs global, community vs state/market, or indigenous vs outsider to guide research and policy-initiatives.

3. Local Institutions in Kumaon

Local forest management in the Indian Middle Himalaya possesses a long history. The active, even necessary, involvement of villagers in forest use and management owing to the critical role of forests in subsistence (Berreman, 1972; Brower, 1987; Guha, 1989; Jodha et al. 1992;) provides the basic precondition for using insights from the common property discourse to understand forest management in the mountains. Use of forests at the village level is often guided by norms or explicit rules that have either evolved over a long period of time, or which villagers or some other agency has consciously created. In Kumaon, thousands of semi-autonomous village forest councils (*van panchayats*) help manage large areas of forests collectively (Agrawal, 1992; Ballabh and Singh, 1988; Somanathan, 1991).

The van panchayats came into being with the passage of the Forest Panchayat Act of 1931. Kumaon villagers undertook widespread protests from the beginning of the twentieth century to contest the attempts by the British colonial government to bring forests under state control. Colonial attempts to extend control involved the assertion of state claims over increasing areas or forests and the creation of elaborate new rules to restrict lopping and grazing, prevent extension of cultivation, regulate the use of fire, increase labor extractions from villagers, and appoint new forest guards. But the best efforts of the government failed to convince villagers that the forest belonged to the state. The incessant, often violent, protests by villagers forced the colonial government to appoint the Kumaon Forest Grievances Committee (KFGC) to suggest a way to satisfy villager demands . On the recommendations of the KFGC, the government passed the Van Panchayat Act of 1931. The Act empowered Kumaon residents to create village level van panchayats and bring under community control forest lands that were managed by the Revenue Department as Class 1 and Civil Forests.

Today nearly 3,000 van panchayats exist in Kumaon. They manage a significant proportion of forests in the region (Agrawal and Yadama, 1996) making and enforcing rules for day-to-day operational activities. Their collective orientation to making and enforcing rules and the problems of coordination across governance levels that they raise make them ideal subjects of research on common property. Indeed, research on the van panchayats has already explored some of the basic thrusts of the common property literature. Agrawal (1994a, 1996a), Ballabh and Singh (1988), and Somanathan (1991), thus, have investigated the extent to which the forest panchayats, and communal management more generally, might be efficient in helping villagers manage forest resources. Agrawal (1996b) uses a transaction costs analysis to compare the performance of forests managed under private, common, and government

ownership and analyzes the reasons for the potentially superior performance of forests under common ownership.

Agrawal (1994a) studied six forest panchayats to suggest that successful community institutional design to manage forests must take into account and solve four distinct collective action problems. Institutions must possess boundary and authority rules³ that determine who can use how much from the common pool resource. Second, rules must be effectively monitored. Third, provisions must be present to sanction rule-violators. And, finally, mechanisms to arbitrate disputes must be incorporated into institutional design. Ballabh and Singh (1988) point out that forest panchayats have been quite successful in managing the forests under their control where government officials have carried out their responsibilities as well. In the absence of support from officials who might possess powers to sanction that the local institutions do not, effective resource management might prove difficult. Somanathan (1989, 1991) uses insights from game theory to examine the difficulties faced by the state in managing forests in Kumaon and advocates the decentralization of forest management to the van panchayats so that all hill forests would be managed at the community level.

4. Local Variations and Resource Management

In other research, Agrawal (1995a) and Agrawal and Yadama (1996) use data from more than 275 van panchayats and compare the relative impact of local institutions, population pressures, and market forces on forest condition. They find that institutional variables have the greatest influence on subjective assessments of the condition of local forests. The institutional variable that emerges as most important is whether villagers hire a guard to monitor harvesting behavior. The finding is significant in relation to the debate on whether it is simply the attributes of "community" that increase the likelihood of cooperation, or explicit steps taken by members of a group to reduce transactions costs and monitor and

5

sanction that are critical to reduce/prevent cheating behavior (Singleton and Taylor, 1992; Ostrom, 1992a).

In a different paper Agrawal (1996a) investigates the relationship between group size and forest condition. Very small communities, he argues, might find it harder to protect their forests owing to difficulties in raising sufficient surplus to hire a guard who can prevent rule infractions by outsiders or even members of the village community itself. While these studies point to directions for future research, systematic evaluations of the relative influence of socio-economic and political variables in comparison to biophysical and edaphic factors are still lacking.

Research on community forest management in the hills can also fruitfully analyze some of the other research problems raised within the commons literature. Hill villagers have possessed substantial formal rights to alter rules for day-to-day management of their forests since at least the 1930s. Historical studies of their evolving institutional structures can help illuminate how internal dynamics of village communities lead to significant shifts in patterns of resource use. Further, statistical and comparative studies of the forest panchayats can help address criticisms of the commons literature that it has tended to focus primarily on single cases. The van panchayats are all located within a similar cultural, policy, and technological environment. Variations among their performance in managing forests must, therefore, be explained with reference to local differences. The emergence of a large literature on local management of forests in the Lesser and Middle Himalaya in Pakistan, Nepal, and India can allow us to carry out detailed and rigorous comparative studies of local collective management of forests as well.⁴

Relatively recent changes in government policies on forest management in the mountains, certainly in India (Sanwal, 1989), but also in Nepal, Bhutan, and Pakistan, create the possibility of comparative research that would examine the effect of macro-level institutional changes on micro-level institutions, forest use practices, and forest conditions. In the Uttar Pradesh Hills, the forest department and panchayat regulations have been altered substantially in recent years. Valuable avenues for research

and better understanding of the relation between policy changes and their impact on local level institutions and forest use have opened. Information about policy shifts, records of council meetings maintained at the village level, annual reports on the van panchayats and their productivity, and reports on the activities of the forest department and the state of the forests it manages can prove invaluable in furthering out state of knowledge and understanding on this subject.

Investigations of the relationship between micro-level community institutions and macro level state initiatives will help address another persistent criticism of the commons literature--that it has tended to remain focused on the community at the cost of a better understanding of the ways in which the community is located in a network of social and political relations which the state shapes to a great extent (Rangan, 1995; Sivaramakrishnan, 1995).⁵ The Kumaon and *Garhwal* regions also constitute an important arena for commons scholars to examine another aspect of the relations between broader social forces and institutional arrangements. Research on ecological movements in the *Uttarakhand*, (Berreman, 1989; Guha, 1989; Jain, 1984; Rangan, 1993; Shiva and Bandopadhyay, 1989; Weber 1989), and the movement for the separate province of Uttarakhand, demonstrate the pervasive ubiquity of social movements in the region. The socio-political context in Uttarakhand, thus, presents a tremendous opportunity to examine the relationship between community institutions and social movements in the region. Such research can significantly advance our knowledge about how institutions and social movements in the region.

The local communities in the Indian Himalaya also form a significant opportunity to investigate internal differences within communities and the impact of these differences on resource use. A number of authors have pointed to relatively low class differences and social hierarchies in Garhwal and Kumaun (Guha, 1989; Pant, 1935; Sanwal, 1976). This might imply that the opportunity to study class and caste differentiation in the Indian Himalaya is limited. It should not, however, be taken to mean that asymmetries of resources and power play a limited role in the hills. If Foucault's writings have made one lesson clear, it is that all human relations are situated within webs of signification that are critically affected by power and politics. As Foucault asserts,'A society without power relations can only be an abstraction' (1983: 222-3). While the forces shaping the ways in which individuals and groups relate to each other vary depending on history and context, there is no escaping the grip of power. What attenuated caste and class differences in the hills would imply is not the absence of power, but simply that its influence assumes more subtle forms.

Examples might make the point clearer. Where caste and class explicitly enter social status, and a community is highly polarized along these dimensions, power might be exercised more in the sense of brute force.⁶ Where these differences are less obvious, the exercise of power might take place through far more subtle means--seemingly equitable strategies that, nonetheless are biased against those who are socially or economically disadvantaged. Auctions of products from the commons to the highest bidder, or high levels of monetary fines as punishment for breaking institutional rules related to commons are two possible examples. The first rule would inevitably lead to richer residents of the village cornering the bulk of benefits from the commons since the poorer members of the community are unlikely to be able to bid even close to the value of the benefits from the entire commons (Agrawal, 1994a). The second rule would punish those individuals disproportionately who possess limited private resources, therefore, are forced to resort to harvesting from the commons more often.

In addition, despite the fact that power is not polarized along some obvious dimensions in the hill society, the presence of thousands of van panchayats in Uttarakhand presents an highly variegated institutional landscape of power whose investigation could help uncover the relationships between societal power and how it congeals along nodes that institutional arrangements constitute. In this sense, the very multiplicity of institutions would assist the investigations of power and politics, as long as one keeps in mind Foucault's admonition that 'the analysis of power relations within a society cannot be

reduced to the study of a series of institutions, not even to the study of all those institutions which would merit the name "political" (1983: 224).

In this context, the relationship between gender roles and power would form an illuminating area of analysis. While gender roles are quite strongly differentiated in the hill subsistence and production economy, and one can expect these differences to affect forest use and management significantly, few studies have focused explicitly on women's activities regarding harvesting, use and management of forests. The increasing attention to women's work in the hills, therefore, can contribute to fill an important lacunae in the scholarship on the commons—the role of gender in common property management (See Agarwal, 1986,1994; Byers and Sainju, 1994; Hewitt, 1989; Saksena et al., 1995).

5. Opening up Conceptual Black Boxes

As we begin to examine the variations within communities and across them, the representational and conceptual coherence of the notion of "community" is thrown into question as well. Together with it, a constructive examination of related concepts such as indigenous, traditional, gender, and participation also becomes necessary. In recent years, each of the above concepts has received significant attention in relation to the management and use of resources. In the positive spirit that has attended discussions around "community," "participation," and "indigenous," one is apt to create polarizing categories that confound analytical sharpness. In seeing community and participation of community members as foundational to successful resource use, it is likely that questions about what kinds of participation are relevant get pushed to the background. Similarly, opposing community to the state or the market is likely to prevent recognition of the ways in which all of these institutional arrangements can enhance the capacity to use and manage resources.

A number of works have already begun to point to the necessity to think about "community," "gender," "indigenous," and "participation" in more nuanced fashion.⁷ Interests and relations of different social actors are always context dependent and dynamic. Social contests, therefore, cannot avoid becoming multi-dimensional. It is important when exploring processes and conflicts related to resource use, then, to focus upon the possibilities of alliances and negotiations among multiple groups rather than looking exclusively to actors who are positioned at polar extremes.

Because the van panchayats form such a clear and early instance of partnership between government officials and local communities, and because participation in community level enforcement takes such diverse forms in different panchayats, they form an ideal context within which to question convenient axes for bifurcating social phenomena. Women in the hills, it is widely recognized, are responsible for much of the actual labor involved in harvesting and using forest resources, but seldom possess the power to make decisions about the protection and management of these same resources. This unfair division of responsibilities and powers creates perverse dynamics that call into question cherished assumptions of ecofeminist writings. Men create the rules for protecting forests, women break them. Many van panchayats have used the Van Panchayat Act of 1931 to formalize and institutionalize norms and rules that the village community had followed in any case before the formation of an official forest governing body. Such melding of the local with an introduced institutional form calls into question easy divisions between indigenous and outsider and points to tremendous local capacities of transformation and adaptation.

6. Conclusion

To examine resource use under common property regimes in Kumaon, this paper has reviewed the recent turn to community and local populations as relevant actors in using, managing, and governing forests. Existing research on forest use in Kumaon, the paper suggests, has drawn in large measure upon writings in the common property literature to frame its questions and to advocate the involvement of communities in resource management. This research has contributed to an interrogation of the widespread perception that overpopulation and market pressures are the most critical variables in explaining forest degradation. It has also pointed to the diversity of community institutional arrangements for managing forest resources in the Kumaon. This diversity provides an excellent environment to examine the differential impact of institutional arrangements on forest use and management.

The paper has also examined the ways in which extant socio-economic conditions in Kumaon provide exciting opportunities to answer questions that have remained largely unexamined in the literature on common property. The region constitutes a fertile source of potentially new insights regarding internal differentiation within communities, the relationship between the state and other sites of political authority, the interactions between power and institutions, and how social movements might be related to institutions of resource management. At the same time, there are some types of criticisms of the commons discourse that would be difficult, if not impossible to address, from within the assumptions that are central to the common property literature. Specifically, two criticisms of the common property discourse would prove harder to address: One, criticisms that problematize the focus of common property scholars on how communal institutions can become more effective, and, two, criticisms that do not accept the need for development (Goldman, 1995). These criticisms are difficult to address because they run at cross-purposes to the founding logic of the commons discourse: to use, manage, and govern common pool resources more effectively, and to valorize community. To some extent, by paying attention to issues of equity within the community, and the need to build communities as resilient repositories of knowledge and strength for managing renewable natural resources, scholars of commons can also undermine their more strident critics. A focus on efficient use of resources, tempered by concerns of equity and community, should be an easy burden to bear!

11

Acknowledgments

I wrote this paper as an Agrarian Studies Fellow at Yale University in 1995-96. Substantial revisions to the paper were incorporated while I was a visiting scholar in 1996-97 at the Workshop in Political Theory and Policy Analysis, Indiana University. Support from both institutions is gratefully acknowledged. I would also like to thank Clark Gibson, Julie Greenberg, Pam McElwee, and Pauline Peters for their helpfùl and constructive criticisms. Elinor Ostrom's influence was crucial throughout. All shortcomings remain mine alone.

Endnotes

1. The literature on common property turned into a flood beginning in the mid 1980s. Important landmarks can be seen as Berkes (1989), Bromley (1992), McCay and Acheson (1987), McKean (1992), NRC (1986), Ostrom (1990,1992), Peters (1994), Stevenson (1991) and Wade (1987).

2. Indeed, some research already suggests that villagers, in the face of increasing scarcity, are likely to take matters in their own hands and plant trees without much external stimulus (Carter, 1992; Carter and Gilmour, 1989; Griffin, 1988; Hofer, 1993; Virgo and Subba, 1994). Such research that examines the conditions under which villagers would plant new trees is extremely important to define the limits of deterioration of the quality of publicly used forest lands.

3.For a discussion of different types of rules and their meanings, see Ostrom, Gardner and Walker (1994).

4.See Cernea (1981,1985), Dani et al. (1987), and Dove and Rao (1986) for some studies of local forest management from Pakistan. For Nepal, see Chhetri and Pandey (1992), Jodha et al. (1992), and the set of papers by Brower, Metz, Exo, and Zurick, edited by Messerschmidt (1990) in *Mountain Research and Development*. An annotated bibliography on common forest management from Messerschmidt (1993) is a useful source as well. The reviews by Arnold and Stewart (1991) and Jodha (1992) tie together some of the important themes in the pre-1990 work on common property in India.

5.A number of important studies that focus on state-community around forest use during the colonial period in different parts of India have recently been completed (Rangarajan, 1992; Sivaramakrishnan, 1996; Skaria, 1992).

6.See Luke's thoughtful review of three different views of power (1974). The volume he edited in 1986 provides a useful collection of writings on power by some of the most respected social theorists. Any contemporary attempts to think power, especially the more diffused and subtle manifestations of power, must consider Foucault's interventions. See, for example, interviews with Foucault, edited by Gordon (1980).

7.For discussions of gender, see Agarwal (1994) and Jackson (1993,1995). Agrawal (1995b) analyzes and questions regnant distinctions between indigenous and scientific/western knowledges. See Agrawal (1996c), Griswold (1992), and Moore (1996) for analyses that discuss questions of community.

Bibliography

Agarwal, Bina. 1986. Cold Hearths and Barren Slopes: The Woodfuel Crisis in the Third World. London: Zed Books.

Agarwal, Bina. 1994. A Field of One's Own: Gender and Land Rights in South Asia. Cambridge: Cambridge University Press.

Agrawal, Arun. 1992. Risks, Resources and Politics: Studies of Institutions and Resource Use from Village India. Unpublished PhD Thesis, Duke University, Durham, NC.

Agrawal, Arun. 1994a. 'Rules, rule-making, and rule breaking: Examining the fit between rule systems and resource use', In Elinor Ostrom, Roy Gardner, and James Walker, *Rules, Games and Common-Pool Resources*. pp. 267-82. Michigan: University of Michigan Press.

Agrawal, Arun. 1995a. 'Population pressure=forest degradation: An oversimplistic equation?' *Unasylva* 181:50-58.

Agrawal, Arun. 1995b. Dismantling the divide between indigenous and scientific knowledge. *Development and Change* 26(3): 413-39.

Agrawal, Arun. 1996a. 'Group size and collective action: A case study of forest management institutions in the Indian Himalaya', In Forests, Trees and People Programme, Phase II, Working Paper No. 3, Rome: FAO.

Agrawal, Arun. 1996b. 'The community vs. the market and the state: Forest management in the Indian Himalayas', *Journal of Agricultural and Environmental Ethics*.

Agrawal, Arun. 1996c. 'Community: Tracing the outlines of a seductive concept.' Paper presented at the Colloquium series at the Workshop in Political Theory and Policy Analysis, Indiana University, Bloomington IN. Sept. 30.

Agrawal, Arun, and Gautam Yadama. 1996. How do Local Institutions Mediate Market and Population Pressures on Resources? Forest *Panchayats* in Kumaon, India. Revised paper under review with *Development and Change*.

Arnold, J. E. M., and W. C. Stewart. 1991. 'Common property resource management in India', Tropical Forestry Paper No. 24. Oxford: Oxford Forestry Institute, University of Oxford.

Ballabh, Vishwa and Katar Singh. 1988. 'Van (forest) panchayats in Uttar Pradesh hills: A critical analysis'. Research Paper No. 2. Anand, India: Institute of Rural Management.

Bajracharya, Deepak. 1983. 'Fuel, food, or forest? Dilemmas in a Nepali village', *World Development* 11: 1057-74.

Berkes, Fikret (ed.) 1989. Common Property Resources: Ecology and Community Based Sustainable Development. London: Belhaven Press.

Berreman, Gerald. 1972. *Hindus of the Himalayas: Ethnography and Change*. Berkeley: University of California Press.

Berreman, Gerald. 1989. 'Chipko: A movement to save the Himalayan environment and the people¹, In Carla Borden (ed.) *Contemporary Indian Tradition :Voices on Culture, Nature, and the Challenge of Change*. Washington DC: Smithsonian Institution Press.

Bromley, Daniel (ed.) 1992. *Making the Commons Work: Theory, Practice and Policy*. San Francisco: Institute for Contemporary Studies.

Brower, Barbara. 1987. 'Livestock and landscape: The Sherpa pastoral system in Sagarmatha (Mt. Everest) National Park, Nepal*. Unpublished PhD Dissertation, University of California, Berkeley.

Brower, Barbara. 1990. 'Range conservation and Sherpa livestock management in Khumbu, Nepal', *Mountain Research and Development* 10(1): 34-42.

Byers, Elizabeth and Meeta Sainju. 1994. 'Mountain ecosystems and women: Opportunities for sustainable development and conservation', *Mountain Research and Development* 14(3): 213-28.

Carson, B. 1985. 'Erosion and sedimentation processes in the Nepalese Himalaya'. Occasional Paper 1. Kathmandu: ICIMOD.

Carter, A. S., and D. A. Gilmour. 1989. 'Increase in tree cover on private farm land in Central Nepal', *Mountain Research and Development* 9(4): 381-91.

Carter, E. J. 1992. 'Tree cultivation on private land in the Middle Hills of Nepal: Lessons from some villagers of Dolakha district', *Mountain Research and Development* 12(3): 241-55.

Cernea, Michael. 1981. 'Land tenure systems and social implications of forestry development programs', World Bank Staff Working Paper 452. Washington DC: World Bank.

Cernea, Michael (ed.) 1985. *Putting People First: Sociological Variables in Rural Development*. New York: Oxford University Press.

Chhetri, Ram B. and Tulsi R. Pandey. 1992. 'User group forestry in the far-western region of Nepal: Case studies from Baitadi and Achlam.' Kathmandu, Nepal: ICIMOD

Dani, Anis, C. J. N. Gibbs, and Daniel Bromley. 1987. 'Institutional development for local management of rural resources.' EAPI Workshop Report No. 2. Honolulu: Environment and Policy Institute, East-West Center.

Dove, Michael, and A. L. Rao. 1986. 'Common property resource management in Pakistan: Garrett Hardin in the Junglat.' EAPI Discussion Paper. Honlulu: Environment and Policy Institute, East-West Center.

Exo, Scott. 1990. 'Local resource management in Nepal: Limitations and prospects', *Mountain Research and Development* 10(1): 16-22.

Foucault, Michel. 1983. 'Afterword: The Subject and Power*, In Hubert L. Dreyfus and Paul Rabinow. *Michel Foucault: Beyond Structuralism and Hermeneutics.* 2nd edition with an afterword by and an interview with Michel Foucault. Chicago: University of Chicago Press.

Gilmour, D. A. 1986. 'Reforestation or afforestation of openland--A Nepal perspective', In A. J. Pearse and L. S. Hamilton (eds) *Land Use, Watersheds, and Planning in the Asia-Pacific Region, RAPA report,* pp. 157-69. Bangkok: FAO Regional Office for Asia and the pacific Region.

Goldman, Michael. 1995. 'Customs in common: The epistemic world of the commons scholars', Mimeo. pp.37.

Gordon, Colin. 1980. Power/Knowledge: Selected Interviews and Other Writings. New York: Pantheon.

Griffin, D. M. 1988. Innocents Abroad in the Forests of Nepal: An Account of Australian Aid to Nepalese Forestry. Canberra: Anutech Pty Ltd.

Griswold, Wendy. 1992. The writing on the mud wall: Nigerian novels and the imaginary village. *American Sociological Review* 57(6): 709-24.

Guha, Ramachandra. 1989. *The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya*. New Delhi: Oxford University Press.

Hamilton, L. S. 1987. 'What are the impacts of Himalayan deforestation on the Ganges-Brahmaputra lowlands and delta? Assumptions and facts', *Mountain Research and Development* 7(3): 256-63.

Hewitt, Farida. 1989. 'Woman's work, woman's place: The gendered life-world of a high mountain community in Northern Pakistan', *Mountain Research and Development* 9(4): 335-52.

Hofer, Thomas. 1993. 'Himalayan deforestation, changing river discharge, and increasing floods: Myth or reality?' *Mountain Research and Development* 13(3): 213-33.

IFRI (International Forestry Resources and Institutions) Research Program. 1993. IFRI data collection instruction manual. Bloomington, Indiana: Workshop in Political Theory and Policy Analysis.

Ives, J. D., and B. Messerli, 1989. *The Himalayan Dilemma: Reconciling Development and Conservation.* London: Routledge.

Jackson, Cecile. 1993. Environmentalisms and gender interests in the Third World. *Development and Change* 24(4).

Jackson, Cecile. 1995. Radical environmental myths: A gender perspective. *New Left Review* 210: 124-40.

Jain, S. 1984. 'Women and people's ecological movements: A case study of women's role in the Chipko movement in Uttar Pradesh', *Economic and Political Weekly* 19(41): 1788-94.

Jodha, Narpat S. 1992. 'Common property resources: A missing dimension of development strategies'. World Bank Discussion Paper No. 169, Washington DC: The World Bank.

Jodha, N.S., M. Banskota, and Tej Partap (eds) 1992. *Sustainable Mountain Agiculture*. New Delhi: Oxford and IBH Publishing Co.

Lukes, Steven. 1974. Power: A Radical View. London: Macmillan.

Lukes, Steven (ed.) 1986. Power. New York: New York University Press.

McCay, Bonnie J. and James Acheson (eds) 1989. *The Question of the Commons: The Culture and Ecology of Communal Resources*. Tucson: The University of Arizona Press.

McKean, Margaret. 1992. 'Success on the commons: A comparative examination of institutions for common property resource management', *Journal of Theoretical Politics* 4(3): 247-82.

Mahat, T., D. Griffin, and K. Shepherd. 1986. 'Human impacts on some forests of the Middle Hills of Nepal. Part 1: Forestry in the context of the traditional resources of the state', *Mountain Research and Development* 6(2): 223-32.

Mahat, T., D. Griffin, and K. Shepherd. 1986a. 'Human impacts on some forests of the Middle Hills of Nepal. Part 2: Some major human impacts to 1950 AD on the forests of Sindhu Palchok and Kabhre **Palanchok.** *Mountain Research and Development* **6**(3): 325-34.

Mahat, T., D. Griffin, and K. Shepherd. 1987. 'Human impacts on some forests of the Middle Hills of Nepal. Part 3: Forests in the subsistence economy of Sindhu Palchok and Kabhre Palanchok', *Mountain Research and Development* 7(1): 53-70.

Mahat, T., D. Griffin, and K. Shepherd. 1987a. 'Human impacts on some forests of the Middle Hills of Nepal. Part 4: A detailed study in southeast Sindhu northeast Palachok and Kabhre Palanchok', Mountain Research and Development 7(2): 111-34.

Messerschmidt, Donald A. (ed.) 1993. 'Common forest resource management: Annotated bibliography of Asia, Africa and Latin America'. Community Forestry Note No. 11. Rome: FAO.

Metz, John. 1990. 'Conservation practices at an upper-elevation village of West Nepal', *Mountain Research and Development* **10(1): 7-15.**

Moore, Donald. 1996. A river runs through it: Environmental history and the politics of community in Zimbabwe's Eastern Highlands. Mimeo. Pp. 59.

NRC (National Research Council) 1986. Proceedings of a Conference on Common Property Resource *Management*. Washington DC: National Academy Press.

Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action.* Cambridge: Cambridge University Press.

Ostrom, Elinor. 1992. Crafting Institutions for Self-Governing Irrigation Systems. San Francisco: Institute for Contemporary Studies.

Ostrom, Elinor. 1992a. Community and endogenous solution of commons problems. *Journal of Theoretical Politics* 4(3): 343-52.

Ostrom, Elinor, Roy Gardner, and James Walker. 1994. *Rules, Games and Common-Pool Resources*. Michigan: University of Michigan Press.

Pant, S. D. 1935. Social Economy of the Himalayans. New Delhi: Mittal Publications.

Peters, Pauline. 1994. *Dividing the Commons: Politics, Policy and Culture in Botswana*. Charlottesville: University of Virginia Press.

Rangan, Haripriya. 1993. 'Romancing the environment: Popular Environmental Action i the Garhwal Himalayas', In John Friedmann and Haripriya Rangan (eds) *In Defence of Livelihood: Comparative Studies on Environmental Action*. pp. 155-81. West Hartford, CT: Kumarian Press.

Rangan, Haripriya. 1995. 'Contested boundaries: State policies, forest classifications, and deforestation in the Garhwal Himalayas', *Antipode* 27(4): 343-62.

Rangarajan, Mahesh. 1992. Forest policy in the Central Provinces, 1960-1914. Unpublished PhD Thesis. Oxford University, Oxford.

Saksena, Sumeet, Rakesh Prasad, and Veena Joshi. 1995. 'Time allocation and fuel usage in three villages of the Garhwal Himalaya, India', *Mountain Research and Development* 15(1): 57-67.

Sanwal, Mukul. 1976. Social Stratification in Rural Kumaon. Delhi: Oxford University Press.

Sanwal, Mukul. 1989. 'What we know about mountain development: Common property, investment priorities and institutional arrangements', *Mountain Research and Development* 9(1): 3-14.

Shiva, Vandana, and Jayanto Bandopadhyay. 1989. 'The political economy of ecology movements', *IFDA Dossier* 71 (May-June): 37-60.

Singleton, Sara and Michael Taylor. 1992. Common property, collective action and community. *Journal* of *Theoretical Politics* 4(3): 309-24.

Skaria, Ajay. 1992. A forest polity in western India: The Dangs, 1840s-1920s. Unpublished PhD Thesis, Cambridge University, Cambridge.

Sivaramakrishnan, K. 1995. Colonialism and forestry in India: Imagining the past in present politics. *Comparative Studies in Society and History* **37**(1): **3-40**.

Sivaramakrishnan, K. 1996. Forests, politics and governance in Bengal, Vols. 1 and 2. Unpublished PhD dissertation. Yale University, New Haven CT.

Somanathan, E. 1989. 'Public forests and private interests: Deforestation and forest policy in the Central Himalaya'. Mimeo. New Delhi: Indian Statistical Institute.

Somanathan, E. 1991. 'Deforestation, property rights and incentives in central Himalaya', *Economic and Political Weekly* 26(4): 37-46.

Stevenson, Glenn G. 1991. Common Property Economics: A General Theory and Land Use Applications. Cambridge: Cambridge University Press.

Thompson, M., M. Warburton, and T. Hatley. 1986. *Uncertainty on a Himalayan Scale*. London: Ethnographica.

Virgo, K. J., and K. J. Subba. 1994. 'Land-use change between 1978 and 1990 in Dhankuta district, Koshi hills, Eastern Nepal', *Mountain Research and Development* 14(2): 159-70.

Von Furer-Haimendorf, Christopher. 1964. *The Sherpas of Nepal*. Berkeley, University of California Press.

Von Furer-Haimendorf. 1975. Himalayan Traders. London: John Murray.

Wade, Robert. 1987. Village Republics. Cambridge: Cambridge University Press.

Weber, Thomas. 1989. Hugging the Trees: The Story of the Chipko Movement. New Delhi: Penguin.

Zurick, David. 1990. 'Traditional knowledge and conservation as a basis for development in a west Nepal **village'**, *Mountain Research and Development* **10**(1): 23-33.