Conflict And Cooperation In Co-Managed Regimes:
The State, Local Communities And Shared Resources In India

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INTRODUCTION

Interest is growing in systems of co-management of resources by the state and local communities. Examples of co-managed resources include coastal fisheries (in, e.g. Japan, Norway, Turkey, and the Philippines), forests (in, e.g. India and Nepal), and Irrigation (in, e.g., Japan and Sri Lanka) (Baland and Platteau 1996: 351-379). Co-management, because it involves explicit links between the state and local resource users, often in situations of external demand for resources, offers clear motivation to develop understandings that draw on both political economy and geographical concepts of site, situation, and scale to understand both the workings of particular instances of co-management and to conceptualize if and how situations can be crafted in which co-management systems are likely to yield socially just and ecologically sustainable outcomes.

One underconceptualized part of this project is the role of the state. It is important to consider, for example, what are the processes that lead the state to engage in co-management and that shape the involvement of the state in co-management. In mid-1990, India's Ministry of Environment and Forests issued a circular initiating Joint Forest Management (JFM), a program involving co-management of some state forests. This paper will use the case of JFM to demonstrate how a political ecology approach creatively brings geographical insights to political economy and constitutes a powerful tool for understanding common property and co-management issues. First, I will briefly review some of the key literature on co-management, and then introduce pertinent aspects of debates on the state in resource management. Then comes the illustrative case study pf JFM in India.

Co-management

The literature on co-management is largely an extension of the common property literature, a literature that involves three major conceptual approaches. The first approach is grounded in the "new institutionalist" extension of neoclassical economics and game theory (Ostrom 1990, Bromley 1992), the second in cultural ecology (McKay and Acheson 1987),

and a third in political economy (Roberts and Emel 1992). In the first two approaches, common property studies tend to focus on communities that are reasonably free of the influence of significant externally-induced change. However, local autonomy has broadly declined, largely because of interactions with the state (e.g. regarding land tenure, resource management policy, or development policy) and market integration.[1] These external interactions bring changes that, directly or indirectly, undermine common property systems and weaken the possibility for collective action (Baland and Platteau 1996, Jodha 1992a & b, Richards 1997, Swallow and Bromley 1994).

Co-management involves a partnership between the state and a local group of resource managers. I see two types of approach to co-management. The first assumes mutual interests and complementary of abilities between the state and local resource users, and the second approach considers divergent interests and conflict.

Swallow and Bromley (1994) provide an example of the first approach by modelling (and finding feasible under certain conditions) a form of co-management in which the state acts as the external protector of a locally-defined common property regime. Baland and Platteau (1996) make the broader case that co-management is a possible solution to a resource management problem where private property is prohibitively costly or inequitable, direct state control is ineffectual, and where externally-induced changes, particularly those related to state policy and market integration, have weakened the possibility for local

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[1] Market integration tends to impact local social relations in three ways that undermine the potential for local common property resource management: by expanding non-local demand for local resources; by enhancing economic, social, and geographical mobility, and thereby decreasing the perceived need to rely on local resources or social arrangements with local people; and by bringing changes in individual preferences that require higher spending and an increasing desire for immediate consumption (Baland and Platteau 1986: 270-82). As group members become integrated to the market in different ways and to different extents, the group may become increasingly differentiated and members may lose their common interests and group identity. Conflict among market-oriented and subsistence-oriented producers may emerge as external demands intensify pressure on resources.

collective action (346-47). They argue that the managerial rationale for co-management lies in the fact the strengths and weaknesses of the state in resource management are complementary to those of local communities or user groups.[2]

- One shortcoming of such studies is that they cannot account very well for the way that co-management systems often emerge and evolve through conflict between the state and civil society. Pinkerton's work in British Columbia on "social dramas" enacted by indigenous fisherpeople (1987), and on social movements for co-management of forests (1993) are two examples of processes of struggle around co-management. Her conceptualization of co-management as generally involving "genuine power sharing between community-based managers and government agencies, so that each can check the potential excesses of the other" (1993: 37) highlights conflicts of interest between the state and the community-based managers rather than cooperation among entities with complementary abilities. However, this approach to co-management raises several issues as well. One is the need to conceptualize heterogeneity and conflict within both the state and the community. A second is how to create a system that involves genuine power sharing. Such issues are the concern of political economy.

Drawing on Emel and Peet (1989), Rees (1990) and Kearney (1984), Reed argued that a political economy theoretical framework is essential for research on resource

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[2] They suggest that the state is best suited for such functions as processing and disseminating information about ecological imbalances, new ways of redress them, and evaluation of these new practices; providing economic incentives or assistance to resource users to encourage conservation; protecting local common property systems; making available formal conflict-resolution mechanisms; providing financial and technical support in cases where costly monitoring technologies are necessary; and promoting competition and assuring that experiences can be shared among distant management units. The strengths of local communities or user groups include a detailed understanding of local social, economic, technical, ecological conditions; the flexibility to adjust local rules and procedures in response to changing circumstances; the existence of social strategies for avoiding conflict, as well as traditional conflict-resolution mechanisms; and the low cost of self-monitoring by organized users (Baland and Platteau 1996, 348-50).

management, because other approaches are based on "simplistic assumptions about pluralistic or structural conditions in society" (Reed, 1995: 134). Reed used a political economy framework to examine a co-management initiative in northern Ontario, finding that local business interests were able to capture the co-management committee and use it to exclude other community concerns (Reed 1995). Gupta (1986) showed how local differences in livelihood strategy based on caste or class differences are also important sources of conflict within or failure of common property regimes. By contrast to these micro-scale political economy approaches, Roberts and Emel (1992) emphasize the importance of macro-scale political-economic processes of uneven development. These macro-scale processes create a dynamic resource base that, in turn, leads to struggles over who appropriates gains and who shares the losses.[3] In such a context, "resource dynamics are such that no property scheme can hope to impose social harmony: efforts to protect property often deliver windfall gains to elites" (267-68). While Roberts and Emel's approach may go too far in obliterating the agency of resource-using people, most of the other approaches cited above have not gone far enough in conceptualizing the dynamic restructuring that takes place through the articulation of local micro-processes and structures with broader processes and structures.

Political Ecology

The political ecology approach to resource management advocates that it is necessary to examine a resource management system in the context of the multiple relationships at multiple scales within which it is embedded (Blaikie 1985, Bryant 1992, Peet and Watts 1996). One of the important new elements of this approach is the way it addresses the issue of scale. Scale has been addressed in the common property literature through comparing

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[3] The resource base is dynamic because the use of natural substances by people depends on social processes, including technological change; capital investment and disinvestment; markets; transportation; credit institutions; and government taxes, subsidies and other programs (Roberts and Emel 1992: 260).

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processes at different scales and considering issues of "scaling up" or "scaling down" common property systems (Keohane and Ostrom 1994, Young 1994). The political ecology approach, by contrast focuses on how local human-environment relations are at the nexus of social and environmental structures and processes operating at scales ranging from that of the global political economy to that of the household. These structures and processes include social differentiation (e.g. class, caste, gender); market integration and globalization; and the state.

Some of the pieces of this project have been considered to a greater extent than others. As briefly mentioned above, there is a literature on the effects of market integration on community resource management. Another growing literature addresses social differentiation within resource managing communities, particularly along gender lines, in the context of co-management (Agarwal 1997, Gupta 1986, Mukhia 1994, Sarin 1996). However, it is also crucial to conceptualize the workings of state in its interventions (or not) into management of particular resources in particular places and, finally, it is important to conceptualize the articulation between the local and the broader system as dynamic and mutually constitutive relationship, rather than treating state actions and market integration as exogenous shocks to the local system. In the remainder of this paper will I will focus on the role of the state in co-management using the case of Joint Forest Management (JFM) in India. In so doing, I will highlight the changing articulations between local and broader-scale structures and processes, particularly processes underlying economic, political, regulatory and ecological change.

THE HETEROGENEOUS STATE AND JFM IN INDIA

It is important to conceptualize the behavior of the state in co-management in order to understand why the state has opened the door to JFM and to consider what might influence the state to become either more or less supportive to genuine power sharing in JFM. In order to understand the role of the state in JFM it is important to situate JFM within the

broad historical context of state-forest relationships. A great deal has been written exposing the role of the state in undermining common property systems through, for example, land tenure law, and distribution of common land (Gadgil and Guha 1992, Jodha 1990, Poffenberger and Singh 1996, Richards 1997). However, the role of the state in these discussions has been underconceptualized.

It is important to see how different state processes at different scales/levels interact with market and civil society to produce particular patterns of resource access, control and use. Rangan (1997) asserted that a new orthodoxy in the environmental literature centers on the notion that state *ownership* of forests results in environmental degradation. She claimed that this construction is based on the problematic assumptions that the state is monolithic and independent from markets and civil society, and that ownership status predetermines the way that resources are used.[4] She went on to sketch some of the debates over forest law and policy, and the role of legal, ecological, and economic factors, as well as forest protest in giving rise to a geographically heterogeneous texture of forest *control* in the Uttarakhand region of Uttar Pradesh state in Northern India. Sivaramakrishnan (1997) focuses on the ways that colonial territorial forest management was modified and limited by factors such as conflict within the colonial state, the political and biological diversity of landscapes to be managed, and the history of local administration, and how these limitations, in turn created a territorial mosaic of forest management in colonial southwest Bengal.

In order to understand the role of the state in the workings of common property or co-management systems, such as JFM, it is important to consider how such heterogeneities are produced and modified through processes operating at multiple scales. Here I will present such processes at three scales of resolution, examining national law and policy,

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[4] It is not clear that some of the most prominent advocates of a populist model of forestry in the Indian context (Gadgil and Guha 1992, 1997, Chambers, Saxena and Shah 1990) hold such an orthodoxy, however, as these works do not hinge on the concept of *ownership* and they do illustrate both a heterogeneous state and geographical heterogeneity.

heterogeneity among the states, and heterogeneity of forest management within states, using the case of JFM in Gujarat.

National law and policy

National forest law and policy are produced to create a degree of homogeneity nationally in certain key dimensions of forestry. In India, national forest law and policy have been an arena of conflict for nearly two centuries. The key struggles have been over the locus of control of forests, and over the system of access, control and use of forests. The Ministry of Environment and Forests' 1990 circular establishing JFM as a form of co-management is but one moment in this history of forestry in India. In order to understand what conditions led to the initiation of JFM, and the directions that state policy might take in the future, it is important to situate JFM within this history of struggle.

In India, the colonial and post-colonial history of national law, policy, and related discourses is one of conflict among parties interested in differing priorities and systems of forest use. We can, for the sake of simplicity, consider how contestation among four interests (themselves heterogeneous) in forests has shaped forest law and policy. These interests are in forest clearance for agriculture, forest management for commercial timber and forest revenue, forest conservation, and multidimensional forest uses by local people. In the early 19th Century the colonial state, though characterized by internal and external conflict, set national forest law and policy on a trajectory that only began to change as a. result of a crisis in forestry beginning in the 1970s. Along this trajectory, the first three interests tended to dominate the fourth; the needs of local people were marginalized at the level of law and policy.

The paramount compulsions of the colonial state were to generate revenue, meet imperial demands for raw materials, and to maintain conditions favorable for capital accumulation. Early in the colonial period, the government asserted the principle of state

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ownership of forest lands.[5] Through the early part of the 19th Century, British administrators facilitated forest clearance for agriculture, which would generate revenue, and, increasingly, focused on organizing the supply timber to meet colonial and export demands (Lal 1992: 18). This frequently created conflict between timber merchants, the state, and local forest users.

Only in the mid 19th century as a result of a perception of rapid deforestation did a strong constituency emerge advocating that short term profits from timber operations must be weighed against the long term need to preserve the continued productivity and the flow of environmental services from forests (Stebbing 1982). After considerable struggle, a forest department was established in India in 1864 with a mandate to practice scientific forestry, and the Indian Forest Act was passed in 1865, empowering the government to declare any forest as government property, provided that this did not affect existing rights of individuals or communities. This Act was vague in defining the respective rights of the state and the people, so work on a new Act began immediately.

Another lengthy debate ensued within the colonial administration over the extent to which the state could claim ownership of forests. Positions ranged from populist ones holding that the state had very little right to claim forests, to annexationist positions that held out for total state control of forests (Gadgil and Guha 1992: 124-134). The issue was resolved in favor of the annexationists when the Government of India passed the Indian Forest Act of 1878. The 1878 Act was designed to put forest utilization completely and unambiguously under the control of the state. It created three classes of forest: reserved forest, protected forest and village forest. Reserved forests were compact and valuable forests in which the rights of villagers were largely extinguished, transferred or, in special

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[5] Forest areas in India were under pre-existing local uses as the British spread their rule. It is likely that a substantial proportion of India's forests were managed as *de facto* common property and a wide variety of forms of collective action to regulate forest use have been documented from regions across the country.

cases, severely limited. In protected forests the rights of communities were recorded and, although not formally commuted, strictly regulated through such mechanisms as reserving certain tree species as state property (Lal 1992: 20). Finally, in village forests there would be no regulation of community rights. This Act was amended to become the Indian Forest Act of 1927, which remains in force today.[6]

In response to fears that Forest Departments might constitute too much land as reserved forest, an 1893 report on the Improvement of Agriculture addressed the relative priority of agriculture and forestry. This report pronounced that forestry should be subordinated to agricultural interests in two ways. First, it recommended that where land was needed, forest could be cleared for agriculture and, second, it emphasized that peasants need access to forests as complementary inputs for agriculture. India's 1894 Forest Policy Resolution enshrined only the first of these pronouncements, stating that agriculture was more important than forestry. It also emphasized the need for preserving forests on climatic or physical grounds. However, the Resolution bolstered the anti-people bias of forest management, stating that forest administration required the regulation of rights and restriction of privileges formerly enjoyed by the neighboring people in order to secure public benefit (paragraph 2). It provided for taking into consideration the fuel and fodder needs of villagers, but only insofar as such uses were consistent with "Imperial interests" (paragraph 17).

These colonial debates demonstrate that, although the needs of local people were clearly recognized by a number of officials, meeting those needs was held subservient to "Imperial interests." Agriculture, because it had a higher revenue generating capacity, was given a higher priority than forestry. Commercial and industrial forestry were held to be not merely the most productive uses of forests, but also compatible with scientific management,

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[6] Changes were minor. The most significant were that the 1927 Act gave the government the right to charge a levy on timber and forest produce, and that the list of forest offenses was extended.

and therefore with environmental protection. Local uses were held to compete with higher-valued commercial uses and to be incompatible with environmental protection. It is also worth noting that the state was not accountable to rural people at the level of law and policy. This position was linked to an ideology that the way to achieve progress is through scientifically managed commercial forestry.

The post-colonial state solidified the colonial system of control and, under the guise of development, intensified the shifts in favor of and demands upon commercial forestry. The 1952 Forest Policy Resolution upheld the fundamental concepts of the 1894 policy, while updating it and reinforcing the model of exclusive state control over forest protection, production, and management. The Resolution also reaffirmed the 1894 policy's stance that local interests are subservient to "national interests" and explicitly rebutted the proposition that residents of neighboring areas should have first claim on the forests.

By the 1970s, forestry in India was approaching a crisis brought about by the convergence of a number of factors. First, timber and pulp production could not meet demand. Second, the 1972 Conference on Environment and Development at Stockholm provided an opening for the entry of the concepts of environment and ecology into mainstream development discourse in India (Sethi 1993: 126). Soon afterward, alarm was raised over the high and accelerating rate of deforestation in India. Thirdly, direct popular resistance to the prevailing model of forestry was reignited in the early 1970s, beginning with the Chipko movement in the Garhwal Himalayas. Resistance also flared in other areas, such as in the Western Ghats and in Bastar district of Madhya Pradesh, where communities relied heavily on forests that were being put under pressure by commercial forestry.[7]

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[7] Communities had, during colonial times, resisted loss of their rights of access to and control over forests in several ways. Rural communities have historically employed such means as *satyagraha* (non-violent direct action) to register their dissatisfaction with alienation from the forests. In addition to organized *satyagraha,* people have resisted through forms of "everyday" resistance: gathering their needs illegally from forest lands, allowing animals to graze saplings in vulnerable regenerating forests, and refusing to cooperate in forest fire

Finally, awareness of this grassroots resistance to commercially oriented forest management spread throughout India and around the globe as Chipko caught the imagination of more and more people and found urban, middle-class allies in academe, environmental movements and the state.

This renewal of a broad range of forest-related protest and resistance contributed both to the processes of deforestation and to the failure of commercial plantation projects, particularly those involving species not valued by local communities. Such acts had traditionally been treated as law-and-order issues; but it became increasingly clear to some officials that it was futile to attempt to use a policing model to protect India's forests from the non-cooperation of an estimated 240 million rural people (Campbell and Khare 1992: 6) who have no choice but to rely, to varying degrees, on forest resources.

By the early 1980s, environmental rights movements were making their cases for people-oriented forest management at levels ranging from the grassroots to the national and international level. A proposed central government Forest Bill in 1982 crystallized resistance to the traditional model of forestry in India. The proposed bill sought to give greater control of forest resources to industry, to give additional authority to Forest Department officials and to make gathering non-timber forest products illegal. The agitation against this Bill was a watershed for several reasons. For the first time, diverse and scattered groups, including villagers, academics, activists, and government officials, were able to network at local, regional, and national levels and form support organizations. This agitation also marked the convergence of ecological issues with those of human rights, since the primary victims would have been tribal communities. Finally, the struggles established that commercial forest operations were responsible for deforestation in both direct and indirect ways. As a result of

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detection and fire fighting. More directly, they have destroyed government forests by arson or by uprooting plantations made in the wake of forest clearance, and they have also engaged in both legal and illicit commercial cutting to get their share of benefits before the forests completely disappeared (Guha 1991, Shiva 1991). Such resistance generally subsided after independence.

the nationwide outcry, the bill was never placed before the Indian Parliament (Sethi 1993:
129).

The widespread and multifaceted struggle against the proposed Forest Bill helped to
tip the balance toward a more populist forest policy. In December, the Government of India
presented in Parliament the National Forest Policy, 1988. This Forest Policy continues in
effect. The stated objectives are to preserve or restore ecological balance, preserve
remaining natural forests, check soil erosion, increase tree cover, encourage efficient
utilization of forest produce and maximize substitution of wood and wood imports, and to
create a massive people's movement with the involvement of women for achieving these
objectives. The policy thus entailed a shift towards more local involvement in protecting the
environment and local control over resources, and a recognition that economical natural
regeneration requires the people's support (Agarwala 1990: 312-315). However, it did not
go so far as to embrace the idea that rural people should have a central role in setting forest
management and use priorities. The changed discourses and power relations that led to the
1988 Forest Policy, in turn, provided a context favorable for the issuance of the national
JFM circular.

However, the struggle continues. Those favoring increased commercialization and
increased powers for the forest department, at the expense of local users continue to struggle
to enshrine their position in law and policy. This means that even retaining the gains that
JFM represents is likely to require substantial long-run struggle, not to mention the
difficulties with strengthening and building upon the inroads that JFM represents.

Heterogeneity among the states of India

India has never been ruled by a single centralized government. During colonial times
there were varying degrees of local autonomy at the level of the province or princely state,
and today India is a federal republic with 25 states. Regional units of government, thus have
had the power to create heterogeneity within the territory of India while passing laws and

regulations to create a degree of homogeneity within their own jurisdictions. This decentralization of formal authority, itself, has been a bone of contention. Forests of British India were the responsibility of provincial forest departments, whose staffs were partly trained and overseen by central authorities. Forest management was further decentralized to the provincial level beginning in the 1910's. The British transferred this authority was part of their political maneuvering in response to struggles for Indian self rule, but some officials challenged it as irresponsible, arguing that a strong central authority was needed to prevent reckless or ignorant waste of forests or their degradation by provincial governments in need of money (Stebbing 1982, 292). Forests became a state responsibility under independent India's constitution, but in response to concerns about rapid deforestation, the constitution was amended in 1976 to make forests a shared responsibility of the Central and State governments. This set the stage for the central government's Forest Conservation Act of 1980, passed to halt the indiscriminate transfer of forest land to other uses. The Act increases the homogeneity among states by prohibiting state governments from diverting any forest land to non-forest use without the prior approval of the Center.

Notwithstanding this increased centralization of authority, there is variation from state to state in forest management and political factors influencing forest management. The most relevant point for this paper is that the roots of JFM are in West Bengal, a state with a long history of rural social movements and communist party organizing, and which has been ruled since 1977 by a Left Front government pursuing policies favorable to the rural poor. Experiments in participatory forest management began in the early 1970s and West Bengal passed state level regulations for what became JFM a year before the central government's circular on JFM. People from supportive NGOs, the Ford Foundation, and forestry officials spread the word and drafted the Central JFM circular. After the circular's issuance in 1990, each state government went through its own process of negotiation, often involving many of the same individuals and institutions who had worked at the national level, and took a varying amount of time in developing and issuing a state-level JFM resolution. By 1996, 21

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of India's 25 states had approved JFM guidelines, which vary in content within the limits set by the national JFM circular (Poffenberger and Singh 1996, 65).

Heterogeneity within India's states: The case of JFM in Gujarat

The *de facto* geography of forest access, control and use in each state is produced by the interaction of the kind of broader political, economic and policy-making processes discussed above with the physical and ecological geographies of the forest lands; the diversity of local cultural and institutional adaptations; and the histories of local administrations, and local resistance and struggles (Rangan 1997, Sivaramakrishnan 1997).   This section will address how these factors came together in the case of JFM in the western Indian state of Gujarat.

Gujarat was one of the leading states in initiating Joint Forest Management. Experiments in participatory forest management began in Surat and Bharuch districts in southern Gujarat during the mid-1980s.   Such experiments began in these districts as certain Forest Department officers sought a way to calm civil unrest, limit illegal felling, promote restoration of degraded forests, and protect the limited remaining areas of good forest.

By the beginning of the twentieth century, the forested inland areas throughout the region were generally managed according to the colonial British model and worked commercially.   The Forest Department would auction the right to cut forest areas and the contractor with the winning bid would hire local male forest dwellers as labor.   The people living in these areas were predominantly "tribal" peoples or *adivasis.*   At the time of independence, the contractor system was replaced by a system of Forest Labor Cooperatives (FLCs).   The *adivisis* themselves were organized into FLCs that would get the timber contracts, and thereby the exploitation inherent in the contractor system was to be avoided (Raju, Vaghela and Raju 1993: 78-79; Gare and Birari 1994).

The long-term commercialization of forestry contributed to the undermining of traditional restrictions on forest cutting among the *adivasis.*   This, along with a dose of

corruption created conditions such that the region underwent massive deforestation in 1984-85 as a result of illegal cutting involving almost everyone living and working in the area. In the wake of this severe deforestation and a Forest Department corruption scandal in 1986, the government banned logging entirely. The Forest Department stopped its own logging and cracked down on illegal timber operations, arresting 11,000 people during the year. This crackdown caused a great deal of tension between the Forest Department and the *adivasi* communities, and violence threatened (Raju, Vaghela and Raju 1993: 79; Pathan, Anil and Poffenberger 1991).

In mid-1987 R.S. Pathan was posted as the Surat Circle forest conservator, the top forest official in a region comprising Bharuch, Surat, and Dangs districts. Pathan had worked in the region in the late 1970s and early '80s and he had then sought, with some success, to involve FLCs in forest protection. Upon his new posting, he sought to defuse the tension and promote forest regeneration by engaging with FLCs and village leaders to assist in convincing local people to protect the forests. In 1987 he held an unprecedented three day, fifty kilometer *padyatra* (march) across the forest area, holding a series of rallies that were attended by an estimated 30,000 people from 80 villages. Afterwards there were meetings in every forest village to discuss the effects of deforestation, such as soil erosion, falling water tables, declining fuelwood and fodder availability, and the importance of the forest in providing for the needs of the poorest members of the community. Local people took an interest in these meetings because it was the first time a high official had taken interest in them and engaged them in serious dialogue. Pathan often remarked to villagers that the rural people should be most interested in their forest because they suffer if it disappears; but Forest Department people get paid anyway and are transferred regularly; so they have no attachment to any particular patch of forest. After these initial contacts, Forest Department personnel became involved in intensive contact with forest communities. The Forest Department made the offer to villagers of the area, that if villages would form forest protection committees (FPCs) and protect their local forests, they would share in the timber

and non-timber benefits of forest regeneration, and they would get a say in choosing the species to be planted in barren patches.[8] As a further incentive, the Forest Department would reward cooperation through opportunities for wage labor for the Forest Department and such additional benefits as land improvements, fruit trees and biogas plants. Villages might receive assistance in improving community infrastructure such as road repair and bus stop shelters (Pathan, Anil and Poffenberger 1991, Interviews with R.S. Pathan and other Forest Department Personnel in 1993).

As a result of this initiative, the tension in the region was largely defused and about 100 forest protection committees were formed in Surat district in early 1988 under informal agreements with the Forest Department. Gujarat passed its JFM resolution in March 1991. The resolution provides that forest protection committee members, in return for protecting a specified forest patch, are entitled to free collection of grass, dry and fallen branches and non-timber forest products. Finally, if the JFM scheme is financed by the state then the FPC is entitled to 25 percent of the receipts obtained from timber sales, but if state financing is not used, the FPC is entitled to 80 percent. This JFM resolution made it possible to formalize forest protection arrangements. Forest Department officials indicate that by early 1993, some 195 recognized FPCs were protecting nearly 40,000 hectares of government reserved forest in Bharuch and Surat districts. This amounted to about 14 percent of the forest land in the two districts. For the state as a whole, by 1993 over 300 villages were involved in JFM, protecting some 54,000 hectares of forest area (SPWD 1993: 137).

In the short run, the Forest Department's JFM strategy has paid off in terms of forest regeneration, and village people have benefitted from Forest Department incentives, an increasing flow on non-timber forest products, enhanced groundwater recharge and so on. In addition, the Forest Department has developed a new sensitivity to the needs of villagers. A number of issues remain to be addressed, however.

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[8] Forest protection committee (FPC) is used here as a generic term. Committee names can vary in practice.

An important set of questions regards the conditions under which co-management serves primarily to co-opt rural people and reduce the state's resource management and enforcement costs, versus the conditions under which co-management can serve to strengthen and empower rural resource-reliant people. Sarin (1996) highlights the issue of unequal power inherent in 'partnerships' between state bureaucracies and community institutions, and the biases and conflicts introduced by the particular priorities strengths, weaknesses and values of state bureaucracies.

Generally, people's participation in JFM in these villages is limited. The Forest Department develops the plans for the protected forest with little input from villagers and asks their cooperation. Rather than building local institutional capacity, the Forest Department has developed a patron-client relationship with FPCs, providing inducements, such as employment, land and infrastructure investments, biogas plants, and fruit trees in return for cooperation.

It is not clear that the Forest Department has the interest or capacity to sensitively address local social structures in ways that promote equity. It is also not certain how the costs and benefits of JFM are distributed across different sections of the communities involved. An indication of potential problems in this regard is that the FPC leader is often seen as the Forest Department's man rather than a village leader. The equitability and durability of JFM in these instances is, therefore, questionable.

As with the policy process at the central level, there are also contending views and varying capacities within state Forest Departments about the system of forest management and relations with forest communities. There are at least three contending positions on JFM within the Gujarat Forest Department. One position is skeptical of JFM and emphasizes the traditional "big stick" approach toward relations with villagers. For example, some Forest Department officials have expressed concern that illegal cutting will resume after ten to fifteen years, when the regenerating trees are larger and the value of the timber is greater than the value of the employment opportunities and other Forest Department patronage. The

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other extreme position is that if the department explains to people the need to protect forests and allows them to do so, then they will take the initiative for forest protection. An intermediary position emphasizes the need for people to get some material return in exchange for efforts at forest protection and foregone forest uses. So far, it is this third position that has characterized JFM in Surat and Bharuch.

The complex negotiations, power relations, and institutional structures involved in such a program have only begun to be investigated, but the experience of JFM has raised a number of questions. Other important issues are those regarding the roles of non-governmental organizations and social movements as "third parties" in co-management systems, as well as their broader roles in creating macro- and micro-scale conditions more favorable to the survival of rural common property systems (Faust, 1996).

CONCLUSION

In India the State opened the door to JFM as a result of processes operating across many scales and arenas of action. State policy proved to be ecologically unsound, socially unjust and economically inadequate. People engaged the forests and the heterogeneous state at many levels to force a shift in forest management orientation from one focused on large-scale commercial and industrial uses to one more open to diverse small-scale local needs. This required the production of knowledge and creation of discourses that highlighted failure of forestry to meet either economic or environmental goals, advocated a more locally-oriented model of forestry as promoting social justice, and emphasized the compatibility of local management or co-management institutions with ecological restoration and health. It required building co-management institutions, and it required mass-mobilizations that were supported by NGOs, academics, and funding agencies.

The remaining broad question about co-management is of how to ensure that it is socially equitable and ecologically sustainable. In the case of the movement toward JFM in India a key issue is how to continue to strengthen the factors that will create legislative and

administrative pressure for supporting and enhancing socially equitable and environmentally sustainable forms of joint forest management. Here it is crucial to continue to engage a heterogeneous state at many levels. This will involve knowledge production, institution building and mass mobilization.

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