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Participatory Exclusions, Community Forestry, and Gender: An Analysis for South Asia and a Conceptual Framework

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Summary. — The idea of people's participation has long been part of development thinking. But today the management of local natural resources by village communities is widely accepted as an institutional imperative. It is therefore essential to examine how these institutions perform, especially from the perspective of the more disadvantaged. Based on extensive fieldwork among community forestry groups in India and Nepal, and existing case studies, this paper demonstrates how seemingly participatory institutions can exclude significant sections, such as women. It provides a typology of participation, spells out the gender equity and efficiency implications of such exclusions, and analyzes what underlies them. It also outlines a conceptual framework to help analyze the process of gender exclusion and how it might be alleviated. © 2001 Published by Elsevier Science Ltd.

Key words — participation, community forestry institutions, gender, bargaining framework, South Asia

1. INTRODUCTION

Central to the idea of people's participation in development, however diverse and contested its definition and scope, is inclusiveness—the inclusion in decision making of those most affected by the proposed intervention. There is also an emerging consensus that effective participation requires people's involvement not just as individuals but as a collectivity, such as a village community. We are thus seeing an increasing emphasis on community participation through group formation in all forms of development interventions. Indeed, in the context of natural resource management (be it forests or water), devolving greater power to village communities is now widely accepted as an institutional imperative by governments, international agencies, and nongovernmental organizations (NGOs). Moreover, rural community forestry groups represent one of the most widespread and rapidly expanding attempts at participative development.

Ostensibly set up to operate on principles of cooperation, such groups are meant to involve and benefit all sections of the community. Yet effectively they can exclude significant sections, such as women. These "participatory exclusions" (that is exclusions within seemingly participatory institutions), constitute more than a time-lag effect. Rather they stem from systemic factors and can, in turn, unfavorably affect both equity and institutional efficiency. This paper analyzes what underlies such exclusionary outcomes and how outcomes could be improved. In also outlines a conceptual framework that can illuminate the nature of gendered exclusion and the potential for change. Where relevant, the interplay of class/caste with gender, in defining outcomes for different categories of women, is also indicated.

It is argued here that participation is determined especially by rules, norms, and perceptions, in addition to the endowments and attributes of those affected. These factors can disadvantage women, both separately and interactively. Women's ability to alter them will

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depend on their bargaining power *vis-à-vis* the State, the community, and the family. The likely determinants of women's bargaining power in these three arenas are spelled out. While the context here is community forestry, the conceptual framework would also have relevance in other contexts.

The paper is based largely on fieldvisits and interviews I undertook during 1998–99 to 87 community forestry sites across five states of India (Gujarat, Karnataka, Madhya Pradesh, Orissa, and the Uttar Pradesh hills) and two districts (Kaski and Dang) of Nepal. [1] Information was obtained mostly through unstructured interviews with village women and men, at times in separate groups, at other times jointly, in addition to individual interviews with key informants, especially office bearers in the executive committees of the community forestry groups (CFGs). This information is supplemented by existing case studies and some earlier visits in a few states.

In the sections which follow, the paper provides a typology of participation; gives a brief background to South Asia's CFGs; traces the gender gap in CFG participation and the associated adverse implications for equity and efficiency; outlines what constrains women's participation; and presents the bargaining framework as a way of analyzing how these constraints might be contested and alleviated.

2. PARTICIPATION: A TYPOLOGY

While the idea of people's participation has long been part of development thinking, today it has become almost mandatory in planning development projects. Views diverge, however, on how participation is defined, whom it is expected to involve, what it is expected to achieve, and how it is to be brought about. [2] At its narrowest, participation in a group is defined in terms of nominal membership (e.g., Chopra *et al.*, 1990; Molinas, 1998), and at its broadest in terms of a dynamic interactive process in which the disadvantaged have voice and influence in decision-making (e.g., Narayan, 1995; White, 1996). In terms of objectives, at its narrowest participation is judged almost entirely by its potential efficiency effects, and at its broadest by its ability to enhance equity, efficiency, empowerment and environmental sustainability (Uphoff, 1991).

While the earlier literature on participation largely neglected how it was to be brought about, recent studies on collective action, especially in the context of natural resource management, are preoccupied with what makes for successful collective functioning and cooperation between people. [3] But the objective of successful cooperation remains largely narrow, *viz*. institutional efficiency. Equality enters the equation less as a desired outcome than instrumentally: whether, for instance, socioeconomic equality enhances prospects of cooperation. [4] The implications of inequitable outcomes for disadvantaged sections are little examined.

Common to both streams of work, but especially characteristic of recent writings on collective action by economists, is a striking neglect of a gender perspective on who participates, what effects this has, and what factors constrain participation. [5] This paper offers such a gendered analysis, wherein effective participation is seen as important both in itself, as a measure of citizenship and a means of empowerment, and for its potential effects on equity, efficiency and sustainability.

Participation can have a range of levels. Drawing on the typologies of White (1996) and Pretty (1995), but also departing from them in notable ways, a typology of these levels (broadly defined) is outlined in Table 1.

Achieving effective participation would involve a shift from the lower to the higher

Table 1. *Typology of participation*

Form/Level of participation	Characteristic features
Nominal participation	Membership in the group
Passive participation	Being informed of decisions *ex post facto*; or attending meetings and listening in on decision-making, without speaking up
Consultative participation	Being asked an opinion in specific matters without guarantee of influencing decisions
Activity-specific participation	Being asked to (or volunteering to) undertake specific tasks
Active participation	Expressing opinions, whether or not solicited, or taking initiatives of other sorts
Interactive (empowering) participation	Having voice and influence in the group's decisions

levels, with levels being defined here not by how a group is initiated but by the extent of people's activeness. This is unlike some earlier typologies, where, for instance, self-initiated activity is seen as the highest level. In fact not all self-initiation need signify participatory success of the overall program. A set of disadvantaged persons may, for instance, opt out of the main group where they have no voice and set up their own group. But this exit option may not substitute adequately for their lack of voice within the main group, if the latter controls most of the resource. Moreover, participation is not the panacea many assume. There are limits to what participation alone (even if interactive) can achieve in terms of equity and efficiency, given pre-existing socioeconomic inequalities and relations of power. Consider how participatory exclusion plays out in the context of South Asia's CFGs.

3. BACKGROUND: COMMUNITY FORESTRY GROUPS

Forests and village commons have been important sources of supplementary livelihoods and basic necessities for rural households in many parts of the world (including in Europe in the late 18th and early 19th centuries: Humphries, 1990). In South Asia these common pool resources have provided firewood, fodder, small timber, and various non-timber products. Especially for the poor and women who own little private land, they have contributed critically to survival. In India's semi-arid regions in the 1980s, the landless and landpoor procured over 90% of their firewood and satisfied 69–89% of their grazing needs from the commons (Jodha, 1986). In that period, firewood alone provided 65–67% of total domestic energy in the hills and desert areas of India and over 90% in Nepal as a whole (Agarwal, 1987). Today, firewood is still the single most important source (and for many the only source) of rural domestic energy in South Asia, and is still largely gathered, not bought. [6]

People's ability to fulfill such needs, however, has been falling over the decades with the decline in communal resources, due both to degradation and to shifts in property rights away from community hands to State and individual hands. In India and Nepal this decline reached crises proportions by the early 1970s, compelling the State to take remedial measures, especially in the form of social forestry programs. Implemented in a top-down, nonparticipatory fashion, with a predominant focus on commercial species such as eucalyptus, these programs largely failed both in restoring forests and in meeting people's needs (Agarwal, 1986). In contrast were examples of successful forest management with community involvement, initiated by some forest officials or villagers themselves (Poffenberger & McGean, 1996). These contrasting experiences contributed in important ways to an emerging consensus that successful forest management needed the participation of local communities. In addition, the formation of CFGs in recent years represents a small but notable reversal in the earlier processes of Statization and privatization, toward establishing greater community control over forests and commons. Indeed there is now a mushrooming of CFGs, [7] some state-initiated, others self-initiated by communities, and yet others catalyzed interactively by NGOs, villagers, and state officials.

In India, these CFGs include: (a) groups formed under the State-initiated Joint Forest Management (JFM) program launched in 1990, in which villagers and the government share the responsibility and benefits of regenerating degraded local forests; (b) self-initiated groups, started autonomously by a village council, youth club or village elder and concentrated mainly in the eastern states of Bihar and Orissa; and (c) groups with a mixed history, such as the *van panchayats* (forest councils) in the Uttar Pradesh (UP) hills initiated by the British in the 1930s. Some of them have survived or been revived by NGOs. JFM groups are the most widespread, both geographically and in terms of forest area. So far, 22 states have passed JFM resolutions which allow participating villagers access to most nontimber forest products and to 25–50% (varying by state) of any mature timber harvested. Today, there are an estimated 36,000 JFM groups, covering 10.2 million hectares (mha) or 13.3% of the 76.5 mha administratively recorded as forest land (Bahuguna, 2000). [8] In addition, there would be a few thousand groups of the other types.

Nepal's community forestry program, launched in 1993, is largely State-initiated. Here even good forest is transferred to a set of identified users who form a forest user group (FUG) and who are entitled to all of the benefits. Today there are about 9100 FUGs involving one million households and covering 0.66 mha or 11.4% (the target being 61%) of

Nepal's 5.8 mha of forest land (Government of Nepal, 2000). In both India and Nepal, NGOs can act as catalysts or intermediaries in group formation and functioning.

The criterion for establishing rights in the commons is either membership (as in the State-initiated groups) or some other formal system laid down by a selected (often self-selected) set of villagers (as in the self-initiated groups). Unlike the older forms of communal resource management which typically recognized the use rights of all village residents, these represent more formalized systems of inclusion and exclusion. The question then is: Are these systems inclusive and equitable in relation say to women, especially the poor? Or are they creating new property rights in communal land which, like existing ones in private land, are elite and/or male centered?

4. PARTICIPATORY EXCLUSIONS

The State-initiated groups in both India and Nepal broadly have a two-tier organizational structure: a general body (GB) which can potentially draw members from the whole village and an executive committee (EC) of some 9–15 persons. Typically the GB meets once or twice a year and the EC about once a month. Both bodies, interactively, define the rules for forest use, the punishments for abuse, and the methods of protection (e.g., guards, patrol groups, etc.), benefit distribution and conflict resolution. Which set of persons has a voice in the GB and EC bears critically on how well these organizations function, and who gains or loses from them.

Women's effective participation in CFG decision-making would require that they not only become members of the group, but also attend and speak up at meetings, and can (at least some of the time) ensure that decisions are in their favour. In other words, they would need to move from being absent or just nominal members to interactive (empowered) participants. Where are they placed currently?

(a) *Nominal participation*

With some exceptions, such as of all-women CFGs discussed further below, most women are not even nominal members: they constitute less than 10% of most JFM general bodies; [9] are usually absent in the self-initiated groups; [10] and are few or none in the *van panchayats*. [11] Their presence in Nepal's FUGs is similarly sparse: in eastern Nepal, for instance, Dahal (1994, p. 78) found that only 3.5% of the recorded FUG members were women.

In India, the JFM membership criteria in the GB and EC vary by state. In 1993, of the 14 states that had initiated JFM, six allowed GB membership to only one person per household (Table 2). This was inevitably the male household head. Today, this remains so for eight of the 22 JFM states on which there is information. In eight others (some due to rule amendments), both spouses, or one man and one woman, can be members. But this still excludes other household adults. Moreover, where the woman automatically becomes a member by virtue of her husband being a member (as in West Bengal), it is he who is seen as the primary member. Only three JFM states allow membership to all village adults. In the self-initiated CFGs the situation is worse, since they replicate the customary exclusion of women from village decision-making bodies. In Nepal's FUGs, again, the unit of membership is the household, and in male-headed households the man's name alone is entered in the membership list (Seeley, 1996).

Women's representation in the ECs (barring some exceptions) is also typically low. In 20 JFM groups studied in West Bengal, 60% had no women EC members, and only 8% of the 180 EC members were women. Landless families, while present in most GBs, were barely represented (Sarin, 1998). In many states, JFM resolutions today require the EC to include women, ranging from a minimum of two or three to one-third (Table 3), but I found that the women so included were rarely chosen by other women as their representatives. Sometimes male EC members even chose the women in their absence and without consulting them. Such women are seldom active or effective. In Nepal again, women's presence in most ECs is nominal. Often those who join are poorly informed of their FUG's activities; some are even unaware that they are EC members. [12]

(b) *Passive participation*

Without being members, women usually hear little of what transpires at GB or EC meetings, that is, they are not even passive participants. Women across the different regions characteristically complain:

Table 2. *JFM rules for general body membership*

Membership conditions[a]	1993 ($N = 14$)	1998 ($N = 21$)	2000 ($N = 22$)
One person per household	Bihar, Jammu and Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Tripura[c]	Assam, Arunachal, Pradesh,[b] Bihar, Jammu and Kashmir, Maharashtra, Rajasthan, Sikkim, Tripura[c]	Assam, Arunachal Pradesh,[b] Bihar, Jammu and Kashmir, Maharashtra, Manipur, Sikkim, Tripura[c]
One male and one female per household	Andhra Pradesh, Himachal Pradesh, Orissa, *West Bengal*[a,d]	Andhra Pradesh, Himachal Pradesh, *Madhya Pradesh*,[a] Orissa, Tamil Nadu, West Bengal,[d] *Karnataka*,[a,d] Kerala	Andhra Pradesh, Himachal Pradesh, Orissa, *Rajasthan*,[a] Tamil Nadu, West Bengal,[d] Karnataka,[d] Kerala
All village adults/anyone interested	Gujarat	Gujarat, *Haryana*[a]	Gujarat, Haryana, *Madhya Pradesh*[a]
No clear representation indicated	Punjab, Haryana, Rajasthan	Punjab, Nagaland,[c] Uttar Pradesh	Punjab, Nagaland,[c] Uttar Pradesh

Source: SPWD (1994, 1998), and recent state orders for Madhya Pradesh, Rajasthan and Sikkim.
[a] These italicized states have moved toward more women-inclusive rules compared with the previous year(s). In West Bengal's 1990 order only one person per household could be a member. This was modified in 1991 to include women.
[b] Here the rule is one adult per family; and at least 30% of total registered members will need to be women.
[c] In Tripura only families with at least one wage earner are eligible. In Nagaland only landowning households are eligible.
[d] In West Bengal, if the husband is a member the wife automatically becomes a member; in Karnataka, if one spouse is a member the other automatically becomes a member.

Table 3. *JFM rules on women's representation in the EC*

Rules: no. of women[a]	1993 ($N = 14$)	1998 ($N = 21$)	2000 ($N = 22$)
Min 1 woman	Punjab	Punjab	Punjab
Min 2 women	Gujarat,[b] Himachal Pradesh,[c] Jammu and Kashmir, Karnataka, Maharashtra	Gujarat,[b] Himachal Pradesh,[c] Jammu and Kashmir, Karnataka, *Madhya Pradesh*,[d] Maharashtra, Sikkim	Gujarat,[b] Himachal Pradesh,[c] Jammu and Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Sikkim
Min 3 women	Andhra Pradesh, Orissa	Kerala, Orissa	Kerala, Manipur Orissa, *Rajasthan*[d]
Min 2 max 5 women		Tamil Nadu	Tamil Nadu
Min 2 max 5 women	Bihar	Bihar	Bihar
Min 30% women		Andhra Pradesh	Andhra Pradesh
Min 1/3 women		*Haryana*,[d] Uttar Pradesh	Haryana, *Madhya Pradesh*[d]
Unspecified	Haryana, Madhya Pradesh, Rajasthan, Tripura, West Bengal	Assam, Arunachal Pradesh, Nagaland, Rajasthan, Tripura West Bengal	Assam, Arunachal Pradesh, Nagaland, Rajasthan, Tripura, Uttar Pradesh, West Bengal

Source: SPWD (1994, 1998) and recent state orders for Madhya Pradesh, Rajasthan and Sikkim.
[a] Total specified EC members vary: typical number is 9–15 members.
[b] Specification is for minimum two women in the "working committee" for managing the JFM micro-plan, but effectively it is interpreted as a minimum of two women in the EC.
[c] Out of a total of 9–12 EC members, five are village representatives, of whom 50% should be women. This works out to a minimum of 2–3 women in the whole EC.
[d] These italicized states have moved toward more women-inclusive rules compared with the previous year(s).

> Typically men don't tell their wives what happens in meetings. Even if there is a dispute about something, they don't tell us; nor do they volunteer information about other matters (women to author, Khedipada village, Gujarat, 1999).

> The men seldom inform us of discussions in meetings. When we ask them they say: "why do you want to know?" If we were members we would be better informed (women to author, Jamai village, Madhya Pradesh, 1999).

Even of the women who are GB or EC members, only a small percentage usually attend the meetings. If they do attend they rarely speak up, and if they speak their opinions carry little weight. Some characteristic responses are given below:

> What is the point of going to meetings. We would only sit silently (women to author, Panasa Diha village, Orissa, 1998).

> Men don't listen, except perhaps one or two. Men feel they should be the spokespersons (woman to author, Garbe Kuna forest, Kaski district, Nepal, 1998).

> I attend *van panchayat* meetings, but I only sign, I don't say much. Or I say I agree (woman *van panchayat* member to author, Sallarautela village, UP hills, 1998).

> Even if women attend meetings, they cannot voice their opinions; they cannot speak against the opinions of their seniors. When the men have finished speaking that is the end of the meeting (Satibama, Nepal, cited in Hobley, 1990, p. 309).

Having a voice in the EC is important since this is the site for discussions and decisions on many central aspects of CFG functioning. As matters stand, women are not party to most decisions. Even those who are members remain passive participants, far from the active or interactive level in my typology.

(c) *Consultative participation*

Equally, male CFG members and forest officials seldom consult women when framing forest use rules, or preparing micro-plans for forest development. Some women hear about the plans through their husbands, others not at all (Guhathakurta & Bhatia, 1992). As the main fuel and fodder collectors, women are often found to know more than men about the attributes of trees with such use value (Pandey, 1990), and to be better informed about the local environment where they gather and collect, while men are found more knowledgeable about the species they use or those found in distant areas (Chen, 1993; Gaul, 1994). Failing to consult women means that their existing knowledge of diverse species does not enrich forest regeneration programs. At the same time, women have less chance of acquiring new knowledge, such as about new silviculture practices, since they are rarely part of the CFG teams that receive such training.

A related issue is gender differences in preferences, say regarding when grass should be cut or which trees should be planted. I found that in the rare cases that women were consulted, they often came up with more suitable alternatives. A case in point is Simal village (UP hills) where the men had fixed a date for grass cutting, but the women, when consulted, said: "This period is not right. We have work now and also have some dry fodder left. We should be cutting when our store of fodder is depleted." So the committee rescheduled the forest opening. [13] But such consultations are rare. Nor is it common to incorporate women's preferences in tree species, which typically tend toward trees with domestic use value (as for fuel and fodder) while men more typically opt for cash yielding varieties (Brara, 1987; Hobley, 1996).

Thus, despite their central stake as users and their familiarity with forests, women have little say in CFG decisions. An analysis of five JFM villages in Gujarat revealed that all major decisions on forest protection, use, distribution of wood and grass, and future planning, were taken by men. The only joint decisions with women were about tree nurseries (Joshi, 1998).

(d) *Activity-specific participation*

Despite their absence from decision-making, women get drawn into specific activities, especially protection. In formal terms, protection of the bounded area is usually done by employing a guard, with CFG members contributing the wage, or by forming a patrol group from among the member households. A male guard or an all-male patrol is typical: these two methods respectively characterized 45% and 18% of the 87 sites I visited (Table 4). Female guards were rare, and only a small percentage of patrols had both sexes, or women alone. Mixed patrols were more common in central and western India, and all-women patrols in the UP hills and Nepal. Occasionally, there are shifts from all-men to all-women patrols, and vice versa.

Table 4. *Methods of forest protection: India and Nepal*[a]

Method	No. of CFGs
Guard[b]	31 (3 women)
Village employed (25); Forest dept employed (6)	
Male patrol[b]	15
Female patrol[b]	7
Joint male and female patrol	7
Separate male and female patrols in same village	2
Men or women plus guard	2
Informal only	8
Changing methods	15
• Male to female patrolling (2)	
• Male to female patrolling to guard (1)	
• Male patrolling to guard (6)	
• Female to male patrolling to guard (1)	
• Female patrolling to guard (3)	
• Guard to female patrolling (1)	
• Joint male and female patrolling to male patrolling (1)	
Total CFGs visited	87

Most common protection method used

State	CFGs visited	Most common method
Gujarat	19	Village patrol (usually men, sometimes both sexes)
Karnataka	13	Male guard employed by forest department for three years; then informal protection or guard employed by villagers
Madhya Pradesh	12	Village patrol (men only, or both sexes)
Orissa	11	Village patrol (men only) or male guard
UP hills	18	Village patrol (women only) or male guards (sometimes female guards)
Nepal	14	Male guard employed by villagers (sometimes female guards)

Source: Bina Agarwal, Fieldvisits in 1998–99.

[a] All patrols involve rotation among member households. Patrol size can vary between two and 10 persons.

[b] Does not include cases that have shifted to these methods of protection from other methods. For such cases see "changing methods".

More commonly, women protect informally, sometimes forming patrols parallel to men's because they feel men's patrolling is ineffective. Women's vigilance improves protection in important ways, especially because they are better able to dissuade other women from breaking the rules as well as catch female intruders. In fire fighting, likewise, women join in, and in several cases their alertness alone saved the forest. None of this, however, adds up to interactive participation.

(e) *Active and interactive participation*

Within the stark scenario of low female participation in formal groups, there are some contrasting examples of all-women CFGs and mixed CFGs with a high female presence. [14] The former are found especially in the UP hills and parts of Nepal with high male outmigration (with a scattering in other regions). But their numbers remain small. There are no consolidated figures for India, but in Nepal all-women FUGs constitute only 3.8% of all FUGs, controlling 11.2% of all FUG-controlled land (Government of Nepal, 2000). They typically receive small plots: some 50% control less than 10 ha each. Often this is barren land needing tree planting, while the mixed (male-dominant) FUGs usually receive larger tracts and natural forest. Mixed groups with a high female presence (say with 30–50% women in the GB or EC) are similarly uncommon, being found only in selected pockets in both India and Nepal. [15]

Usually CFGs with a large percentage of women have been catalyzed by a local NGO, forest official, or international donor. In rare cases women themselves have initiated formal CFGs either where there were none, [16] or

where they were frustrated by their lack of voice in the existing male-dominant CFG and additional forest land was available for setting up their own (field observations in Orissa, 1998–99). While the former cases are encouraging, CFGs formed as an exit option provide an unsatisfactory solution to women's exclusion from the male forums which still control most of the resource.

More often, women self-initiate informal protection groups to guard more effectively an area being monitored by a male-dominated CFG. Unlike formal groups which are clearly delineated and often have the authority to make and enforce rules, informal groups lack both clear delineation and such authority. [17] In many ways, women's informal protection efforts are extensions of their everyday forms of cooperation and social networking, and women's absence from men's formal groups reflects the power of gender exclusion that characterizes many of men's other networks. Women's limited involvement in formal CFGs, in turn, has wider adverse implications, as discussed below.

5. IMPLICATIONS OF PARTICIPATORY EXCLUSIONS

In so far as participation is important in itself as a measure of citizenship rights and as a form of empowerment and voice, women's absence is an indicator of a project's failure on these counts. In addition, excluding women while including men could worsen power relationships and further disempower women. Indeed every new participative institution that ignores gender, be it forest user groups, water user groups, or credit groups, can potentially disempower the women excluded. In addition, there are implications for distributional equity and institutional efficiency. [18]

(a) *Equity*

Table 5 broadly summarizes the kinds of costs and benefits that tend to accrue mainly to one gender. Here I discuss a few to illustrate the effects of participatory exclusion.

Women's absence from CFG decision-making means that they have little say in the framing of forest closure rules. When protection starts, most villages bar entry. Where the forest is highly degraded anyway, this may cause no extra hardship. But where earlier women could meet at least part of their fuel and fodder needs from the protected area, they are now forced to travel to neighboring sites, involving additional time, energy, and the risk of being caught and fined. In the early years of JFM, Sarin (1995) found that in some sites in Gujarat and West Bengal, women's collection time and distances traveled for a headload of firewood increased several-fold (Table 6).

Table 5. *Main potential costs and benefits of forest closure by gender* [a]

Mainly affecting women	Mainly affecting men
Costs	
—Firewood shortages (more time and energy expended in collection and/or cooking; and adverse health effects)	—Membership fee
—Fodder shortages (more time and energy expended in collection)	—Patrolling time/guard's pay
—Increased time in stallfeeding animals	—Fodder shortages (purchase)
—Informal patrolling time	—Loss of source for small timber
—Erosion of some livelihoods: e.g. firewood sellers, NTFP collectors	—Erosion of some livelihoods: e.g. blacksmiths using woodfuel in furnaces
—Fines if caught stealing firewood	
—Enhanced (late entry) membership fee	
Benefits	
—Firewood supply (a few weeks, if forest is opened)	—Small timber
—Fodder supply (a few weeks, if forest is opened)	—Housebuilding timber
—NTFP (seasonal)[b]	—Cash (if distributed) from sale of forest products
	—Use of collective fund

[a] This is a broad outline of the main *direct* costs and benefits. Not each of these need apply to every CFG. There may also be some *indirect* costs and benefits. For instance, a greater supply of firewood indirectly benefits the whole family.
[b] NTFP: Non-timber forest products.

Table 6. *Impact of forest protection on women's efforts to procure cooking fuel: India and Nepal*[a]

Situation in early 1990s: Fieldvisits by Madhu Sarin (Sarin, 1995)

State and village	Time/distance for gathering one headload of firewood		Frequency of collection	Other impact
	Before protection	After protection		
West Bengal (Bankura South Division)				
1. Kamardanga	1.5–2 hr	4–5 hr	5 days/wk except monsoons	Partial switching to lantana, painful to collect
2. Bhadli	0.5 km	4–5 km	n.i.	Have to 'steal' from other's forest, hefty fines if caught
3. Barapaccha	1–2 hr	3–4 hr	Daily except monsoons	n.i.
4. Karapara	0.5 km	8–9 km	n.i.	Partial switching to leaves, dung, husk, weeds
Gujarat				
1. Vena (Panchmahals district)	0.5 hr	3–4 hr	1 week/month	Harassment and abuse by FD staff and residents of other villages when wo men go to unprotected forest further away
2. Chari (Panchmahals district)	1 hr	4–5 hr	Daily for one month/year	Abuse by residents of other villages; fear of being beaten by own men
3. Malekpur[b] (Sabarkantha district)	1–2 hr	Whole day	n.i.	Abuse by residents of other villages from whose forest women collect firewood
South Bihar				
1. Saraiya (Palamau district)	n.i.	n.i.	n.i.	Switching to leaves, dung, lantana, arhar sticks, some purchasing firewood
2. Ramua (Hazaribagh district)	n.i.	n.i.	n.i.	Switched to leaves, lantana, dung, thorny bushes, some buying coal
3. Banaso (Hazaribagh district)	n.i.	n.i.	n.i.	Switched to dung, weeds

Table 6—*continued*

Situation in 1998–99: Fieldvisits by Bina Agarwal			
State and village	Total protected area (ha)	Per HH protected area (ha)	Firewood availability and women's responses
Gujarat (Sabarkantha, Bharuch, Surat, and Panchmahals Districts)			
V1	190	1.88	Women report severe firewood shortage; switch to bushes, tur sticks, other agricultural waste. Many in the village have changed their cropping pattern in favor of tur and castor to get more agricultural waste for fuel
V2	141	0.59	Women report firewood shortage; partial switch to tur sticks, biogas and kerosene
V3	253	0.94	Women report firewood shortage; partial switch to tur sticks, kerosene, dung cakes
V4	304	0.82	Women report firewood shortage; partial switch to kerosene, dung cakes
V5	41	0.16	Women report firewood shortage; steal from another forest
V6	5*	0.02	Women report firewood shortage. Many steal from another forest and report paying fines when caught by the guard
V7	100	0.37	Women report firewood shortage. Many steal from another forest and if caught by the guard lose their axes or pay fines
V8	115	0.52	No information
V9	35	0.57	Women report firewood shortage; partial switch to agricultural waste and dung cakes
V10	60	0.68	Women report firewood shortage; partial switch to agricultural waste and dung cakes. Some no longer heat bath water in winter. A few have biogas
V11	140	0.50	Women report firewood shortage; partial switch to dung cakes
V12	344	1.60	Women report firewood shortage; partial switch to agricultural waste and biogas
V13	40	0.16	Women report firewood shortage, especially among the poor
V14	1500	n.i.	Women report firewood shortage; partial switch to dung cakes and agricultural waste. Also distance travelled for a headload of firewood reported to have increased from 1 km before protection to 5.7 km after protection. Landless face acute shortage
V15	450.1	3.21	Women report firewood shortage. Some have switched to biogas and kerosene, but most also use agricutural waste. Distance travelled reported to have increased from 1 km to 5 km daily after protection started
V16	70	0.31	Women report serious firewood shortage for at least 4–5 months; partial switch to agricultural waste and kerosene
V17	179.27	1.13	Women report firewood shortage. There has been an increase in the time taken for firewood collection since protection started. Partial switch to tur sticks and dung cakes

V18	10*	0.50	Women report serious firewood shortage; partial switch to tur sticks and dung cakes
V19	127	0.554	Prior to protection there was a severe shortage. Women report there is no shortage now
Nepal (Kaski and Dang districts)			
CF1	2.5*	n.i.	Many use biogas. No information on what the poor use
CF2	24.8	0.38	Women report acute firewood shortage. They do not light a fire for space heating in winter; spend more time in cooking to save wood; steal firewood
CF3	156.4	0.62	Women report firewood shortage, especially among the poor. Poor women steal at night
CF4	19	n.i.	Women report acute firewood shortage. Stealing is common
CF5	n.i.	n.i.	The better-off have switched to biogas plants and stoves. The poor face acute shortage, use small twigs
CF6	75	n.i.	Women report firewood shortage. The poor use straw and steal from neighbouring forest at night
CF7	5.62*	0.05	Women report firewood shortage; partial switch to gas, some buy firewood
CF8	5.5*	0.09	Women report severe firewood shortage. Switch to twigs, dung cakes. No longer heat bath water or animal feed in winter
CF9	257	1.04	Women report acute firewood shortage. Switch to dry straw and dung cakes. No longer heat bath water or animal feed in winter
CF10	1.75*	0.02	No information
CF11	10.8*	0.09	Not much firewood available
CF12	212.7	0.39	The very poor who are dependent on firewood sale for a living, now steal at night. Their incomes are insufficient even for adequate food
CF13	7.2	0.11	Women report firewood shortage. Stealing firewood is common
CF14	141.0	0.99	Women report firewood shortage. The poor steal, even though they are often caught and have to pay a heavy fine

Sources: (a) Adapted from Sarin (1995). (b) Bina Agarwal Fieldvisits in 1998–99.

[a] V: village; CF: community forestry; HH: household; n.i. = no information.

[b] Situation in the first two years of protection; some subsequent improvement due to cutback operations and firewood distribution among villagers, after women's persistent complaining and the local NGO's support led the CFG to take remedial measures.

[*] All-women CFGs. As noted, their plots are typically small and degraded.

Oftentimes, school-going daughters had to join their mothers, with negative implications for their education.

As the forests regenerated, a less rigid closure regime might have been expected. But I found this not to be the case even several years into protection. Of the 87 CFGs I visited in 1998–99, 80 had firewood available. Of these 45 (60%) had a ban on firewood collection, wherein 21 did not open the forest at all and 24 opened it for a few days annually for drywood collection and/or cutback and cleaning operations. The remaining 35 allowed some collection on a continuing basis, but only of fallen twigs and branches (Table 7). Even after years of protection, women thus reported a persistence of firewood shortages in most villages I visited, and in virtually all the study villages in Gujarat and Nepal (Table 6). The exceptions were regions that already had relatively dense forests when protection started, as in parts of Madhya Pradesh and Orissa. Some characteristic responses in scarce regions are given below:

> We go in the morning and only return in the evening. Since the end of the rainy season, we have been going every day. I go myself and so does my daughter. Earlier too there was a shortage but not as acute (woman EC member to author, Kangod village, Karnataka, 1998).

> Men preach to women about not cutting trees, but what can women do? They cannot cook food without firewood and they cannot collect firewood from other places (group discussion with women in Kabhre Palanchok, Nepal, cited in Hobley, 1996, p. 147).

> The women asked the men: should we burn our hands instead of firewood to light the stove? (male NGO worker, Panchmahals district, Gujarat, 1999).

Where possible, women substitute other fuels: a few can switch to biogas, but most have to use inferior fuels such as twigs, agricultural waste, even dry leaves (Table 6). These fuels need more time to ignite and tending to keep alight, thus adding to cooking time and preventing women from simultaneously attending to other work. Moreover, the additional fumes from inferior fuels, in typically poorly ventilated conditions, have negative health effects. In some areas women also economize on fuel by forgoing a winter fire for space heating (even in the subzero temperatures of the Nepal hills), by not heating bath water in winter or heating it only for husbands, and so on.

Usually women from both middle and poor peasant households report such domestic energy problems, since even the former seldom purchase firewood or have enough private trees for self-sufficiency. Women of landless or landpoor households are, however, the worst off, since without private land they have no crop waste or trees of their own, and few cattle for dung. [19] As a poor woman in Khut village (UP hills) told me: "We don't know in the morning if we will be able to cook at night."

Can the regenerated forests alleviate these shortages? Some argue, yes. Shah (1997), for instance, suggests a norm of 0.2 ha of forest per household in Gujarat for meeting firewood and other household needs. In my Gujarat sample,

Table 7. *CFG rules of firewood collection by region: India and Nepal*

Rules	Gujarat	Karnataka	Madhya Pradesh	Orissa	Uttar Pradesh	Nepal	Total
Drywood collection banned	6	4	–	3	7	1	21
Drywood collection banned but forest opened for a limited period each year to allow collection and/or cleaning/cutback operations which provide some firewood to CFG members	9	2	–	1	2	10	24
Drywood collection allowed (typically only fallen twigs and branches)	3	5	12	7	6	2	35
Little firewood available	1	1	–	–	2	1	5
Unspecified or no information	–	1	–	–	1	–	2
Total	19	13	12	11	18	14	87

Source: Bina Agarwal, Fieldvisits in 1998–99.

15 out of 19 villages have more than this minimum (Table 6). Some others, however, give much higher estimates: e.g., Lal (1992) suggests 0.47 ha per capita, but as an all-India average and covering forest products for all uses. What is less contested is that much more firewood can be extracted sustainably than the conservative closure regimes currently allow. Other solutions (discussed further below) could also be found. The neglect of this persistent problem appears to largely reflect women's lack of bargaining power in the community. Women's time and effort is invisible unpaid labor that does not elicit automatic community response.

Similarly, there are gender inequities in benefit sharing. In most cases, cash benefits are not distributed. In the 29 CFGs across six Indian states examined in Table 8, for instance, only three distributed any funds to members. Most commonly, the funds were put to uses from which women were unlikely to benefit, such as youth club repair, purchasing community utensils, rugs, drums etc. (which the men used or leased out), and travel by EC members. Only seven CFGs allocated funds for a forest guard or for community needs such as school repair or income-generating enterprises. In some regions, such as Orissa, I found that spending on religious functions and youth clubs was especially common.

Women have little say in fund allocations. [20] Many resent this:

> The money obtained from grass and firewood is kept by them in their fund. We have not seen one penny of it. We buy grass, which is auctioned by bundles. The community forest belongs to the men. We own nothing (women to author, Ghusra village, Dang district, Nepal, 1998).

Even where the CFGs distribute some cash benefits, women of nonmember households receive none, since entitlements are linked to membership. These are often the poor who cannot easily contribute to the guard's wages or to patrolling (where they migrate for work). But even in member households, money given to men does not guarantee equal sharing, or even any sharing, within the family. As found in non-CFG contexts (e.g., Dwyer & Bruce, 1988), here too the men typically spend a substantial part on gambling, liquor, or personal items. [21] Women gain if the benefits distributed are in kind (such as firewood or grass), or where drywood collection or grazing is routinely allowed. But entitlements are usually on a household basis, so even when both spouses are members they get only one share. Women, when asked their preferences, tend to opt for equal and individual shares for each spouse (Sarin, 1995; my fieldwork in Gujarat, 1999).

Inequities also arise from the distributive principles followed. Forest products can be distributed either according to willingness to pay (i.e., market determined), or by contribution, or need. While seemingly neutral, these principles have significant gender and class implications since people differ in their abilities to pay or contribute, or in their needs. Practices such as auctioning grass to the highest bidder (the market principle) tend to be both unequal and inequitable, since those unable to pay get none, even if they have contributed to protection. This adversely affects both the poor and women in general, since rural women even in rich households have less access to financial resources than men. But even distribution by contribution (say toward protection) can prove

Table 8. *CFG funds: principal uses, India*

Use of funds[a]	W. Bengal ($N = 20$)	Other states ($N = 9$)[b]	All ($N = 29$)
Purchase of community utensils, rugs, drums, etc. for CFG use and leasing out; travel by EC members; local club repair	14	4	18
Religious and social functions	2	2	4
Forest guard's pay, school repair; income generation	–	7	7
Loans to families	3	2	5
Distributed to members	1	2	3
Not used so far	6	1	7

Source: Compiled from Ecotech Services (1999).

[a] Some CFGs use the funds for more than one purpose.

[b] Andhra Pradesh (2); Karnataka (1); Madhya Pradesh (2); Rajasthan (2); Uttar Pradesh (2).

inequitable where the poor and women generally are less able to contribute toward the guard's pay or to patrol duty, or because they are more dependent on the commons. Only if some account is taken of differential needs, such as by allocating poor women rights in an additional grass patch, would the distribution be relatively equitable.

In practice, I found contribution (in terms of membership fees, protection, etc.) to be the most common basis for distribution, with all contributing households getting equal access to grass or fuelwood when the forest was opened. But there were also cases of auctioning either of grass, as in the UP hills and Nepal, or of other forest products as in Orissa. Need rarely guided distribution. Hence for poor women the outcomes of forest closure have been especially inequitable.

Of course, not all the noted inequities can be cured solely by women's presence in decision-making. For instance, that rural women (rather than men) bear the main burden of firewood shortages stems from the pre-existing gender division of labor wherein firewood collection and cooking is usually women's work. This division of labor is unlikely to change solely by women's participation in CFG decision-making. Participation can, however, reduce several other dimensions of the noted gender inequities in costs and benefits, such as:

—It could lead to more equitable distribution rules. I found, for instance, that women across class lines were vehemently opposed to forest products being auctioned and wanted rules which allowed everyone equal access to grass or firewood. Women's response in Chanauta village (Nepal) is illustrative: "We should not have auctions. Let one person per household go and get as much grass as she can carry and let everyone pay the same amount as an entry fee." Again, with greater say in decisions, women could push for shares in their own right, rather than on a household basis. In addition, poor women could put pressure on CFG committees to have their particular needs taken into account.

—It could give women greater say in community fund allocations.

—It could induce communities to formulate less conservative closure policies so that, where possible without sacrificing sustainability, more could be extracted from the regenerated forests. In some sites this has happened only after women forced the issue by constant complaining or fighting with the forest guard.

—It could pressure the CFG to find solutions to domestic fuel shortages, such as by allocating part of the forest to fuelwood plantations; using the community funds to subsidize alternative fuels such as biogas, or to subsidize firewood purchase from elsewhere, etc. In other words, if women had a more effective voice, firewood shortages would be seen as a community concern and not just the concern of individual households, or of women alone.

(b) *Efficiency*

Women's lack of participation in CFG decision-making similarly has efficiency implications. At one level, many CFGs have had notable success in forest regeneration. In some cases, replanting is undertaken, but if the rootstock is intact even simply restricting human and animal entry can lead to rapid natural revival. For instance, within five to seven years of such restrictions many severely degraded tracts in semi-arid India are found covered with young trees; and areas with little and declining vegetation show signs of good regeneration. In fact in most ecological zones, CFGs show such beneficial results, and in several cases incomes and employment are reported to have increased, [22] and seasonal outmigration fallen. [23]

At the same time, there are gaps between the gains realized and those realizable; or cases of groups failing to take off, or being unable to sustain their gains. In broad terms, such inefficiencies can stem from ineffective protection and inefficient planning for forest development (see also, Agarwal, 2000a,b).

(i) *Ineffective protection*

At present, there are at least three indications of inefficiencies in protection. One, there are rule violations. Almost all the villages I studied reported some cases of violation, at times as a frequent occurrence. Violations by men are usually for timber for self-use or sale (the latter in areas with commercially valuable trees). Violations by women are typically for firewood. Where a CFG bans collection without consulting the women or addressing their difficulties, many are under pressure to break the rules, given their daily need for fuelwood. Sometimes, acute need forces women into persistent altercations with the guard. [24] In one

Gujarat village I found that only when the guard threatened to resign as a result did the EC agree to open the forest for a few days annually. In Agrawal's (1999) study of a *van panchayat* village, women constituted 70–80% of the reported offenders during 1951–91, most being poor and low caste.

Women's greater participation in rule making could reduce tendencies to rule breaking, by allowing them to formulate rules that are not only fairer but also perceived by them to be so. As women in the UP hills reasoned: "The male members of the committee have difficulties implementing the rules. Women could discuss these problems with the men. Perhaps more 'mid-way' rules would be, in the long run, more effective... more viable" (cited in Britt, 1993, p. 148). Bardhan's (1999) study, although ungendered and relating to water users groups, is also a pointer: he found that rule compliance was linked to participation in rule formulation.

Two, there are problems in catching transgressors. In virtually all the regions I visited, all-male patrols or male guards were unable to deal effectively with women intruders because they risked being charged with sexual harassment or molestation, especially where nonmember women, or women from neighboring villages, were caught. In some incidents, women and their families registered false police cases against patrol members, or beat them up. Involving women in protection would thus be more effective, as some villagers recognize.

> When only men protected, women would not listen to them. They would say it is our forest so you can't stop us. But women can persuade other women. They can also physically stop them, whereas men can't. Once when a man was protecting and saw a woman bringing wood, he asked her to put the wood down. Her husband later beat him with a stick and broke his head. If women were protecting this would not have happened (woman leader to author, Vejpur village, Gujarat, 1999).

Equally, however, women on their own find it difficult to patrol at night or confront aggressive male intruders. The most effective solution appears to be a patrol team constituted of both sexes. Recognizing this, in some regions male patrol groups have inducted women, but this is atypical.

When women voluntarily set up informal patrols, even where there is a male guard or patrol, protection efficiency can improve notably. In their study of 12 *van panchayats*, Sharma and Sinha (1993) found that all the four that were "robust" had active women's associations. But in so far as women's groups are typically informal, they lack the authority to punish offenders who still have to be reported to the formal (typically all-male) committees. This separation of authority and responsibility can introduce inefficiencies in functioning. For instance, I came across several cases where the women had abandoned their efforts and the forest condition had worsened because the male EC members did not punish the culprits women caught. In addition, when women catch intruders, they are seldom party to discussions or decisions on appropriate sanctions. This also means that conflict resolution is often ineffective.

Three, often the male guard or patrol fails to notice resource depletion. In several cases, women's informal patrols took me to their patrol site and pointed out illegal cuttings which the men had missed. Part of this gender difference arises from the fact that women, as the main and most frequent collectors of forest products, are more familiar with the forest than men.

(ii) *Inefficient forest planning*

The second set of potential inefficiencies lie in inadequate consultation with and information seeking from the women. For instance, a failure to involve women in forest development and new planting decisions means missed opportunities for gaining from the particular knowledge of plants that we noted rural women in many areas possess. This could reduce prospects for regeneration and biodiversity. Moreover, if no account is taken of gender differences in tree preferences, it can undercut the project's ability to fulfill household needs and the commitment of excluded members to the initiative.

Basically, in ignoring gender concerns, the CFGs are violating many of the conditions deemed by several scholars as necessary for building enduring institutions for managing common pool resources. This includes ensuring that those affected by the rules participate in framing and modifying the rules; that the rules are kept simple and fair; that there are graduated and appropriate sanctions against offenders; that there are effective mechanisms for monitoring the resource and resolving conflicts; and so on. [25] All these conditions would be fulfilled better with women's greater participation in all aspects of CFG functioning, with positive efficiency effects.

Of course, despite women's low involvement, forests can show regeneration, but many might not reach their full potential for growth, or for biological diversity or benefit provisioning; and some CFGs might not be sustained at all. While these efficiency effects require more empirical verification, even the noted evidence provides strong pointers, and makes it imperative to understand what determines participation and how it can be improved.

6. WHAT DETERMINES PARTICIPATION?

In broad terms, my study suggests that women's participation in CFG functioning depends especially on the following factors:

—Rules of entry: the criteria defining membership in the GB and EC.

—Social norms that define who should attend and speak up at meetings; who should form the patrol; how men and women should behave in public, and so on.

—Social perceptions regarding women's ability to contribute to CFG activities.

—Entrenched territorial claims.

—Personal endowments and attributes (e.g., educational levels, property status, marital status, age, etc.).

—Household endowments and attributes (which define where women fall in the structural hierarchies of class and caste).

(a) *Rules*

In formal CFGs, such as India's JFM groups or Nepal's FUGs, rules determine membership in the GB or EC. As noted earlier, rules allowing membership to only one person per household effectively exclude women. Those allowing one man and one woman per household to join are more inclusive; but the most inclusive, which allow all adults to join, are rare. A lack of awareness of rules, or of changes therein, can also constrain women's participation. For instance, a study of 19 West Bengal CFGs showed that even four years after the membership criteria was amended to allow women's inclusion, barely two-fifths of the members knew of the change (Raju, 1997). Among the self-initiated groups (that lack formal membership rules), long-standing conventions, which traditionally excluded women from public decision-making forums, deny women entry into the CFGs.

(b) *Social norms*

Even when entry rules are favorable and women join the CFGs, they seldom participate in meetings due to a range of pre-existing restrictive social norms, such as those described below.

(i) *Gender segregation of public space*

In general, village spaces where men congregate (such as tea stalls and the market place) are spaces that women of "good character" are expected to avoid (Agarwal, 1994). Restriction is somewhat less for older women, but never entirely absent. These notions carry over to formal village meetings. A fear of reputation loss or family reprimand makes most women uncomfortable with attending CFG meetings, unless the men explicitly invite them:

> They don't call us, so we don't go (women to author, Roopakheda village, Madhya Pradesh, 1999).

> The meetings are considered for men only. Women are never called. The men attend and their opinions or consent are taken as representative of the whole family—it's understood (woman in a *van panchayat* village, UP hills, cited in Britt, 1993, p. 148).

> Rural women and men can't sit together. But we convey our decisions to them (man to author, Chattipur village, Orissa, 1998).

(ii) *The gender division of labor*

The fact that women bear the main responsibility for childcare and housework, in addition to their share of agricultural work, cattlecare, etc., makes for high work burdens and logistical constraints. Men are reluctant to share not just domestic tasks and childcare, but even cattlecare. This seriously restricts women's ability to attend lengthy meetings held at inconvenient times:

> There are problems in attending meetings since we need to cook and serve the evening meal. The meeting is long. We also have to feed the cattle (woman to author, Barde village, Karnataka, 1998).

> Women have a lot of problems. They can cut grass quickly, but who will give grass to the buffaloes if we come to a meeting? Women's work is a constraint (Arti Shrestha, grassroots organizer, to author, Kaski district, Nepal, 1998).

> We want women to come to our meetings, but who will take care of the children? (man to author, Basapur village, Karnataka, 1998).

In the *van panchayat* villages that Mansingh (1991) studied, women's attendance thinned

over time since, as most women said, they did not have time to "sit around for [the] four hours that it took to have a meeting in the middle of the day."

(iii) *Gendered behavioral norms*

Norms of both acceptable male behavior and acceptable female behavior impinge on women's participation. For a start, women hesitate in attending meetings due to aggressive male behavior:

> When we open our mouths, men shout us down (women in Harimari village, West Bengal, cited in Raju, 1997).
>
> If men drink and say something to us, we don't like it. They fight with us, so we don't go to the meetings (women to author, Khabji village, Gujarat, 1999).
>
> Men drink a great deal here... and start abusing us... If one woman is abused, ten men stand up and agree with the abuser saying, yes, she deserves this (women to author, Deolikhal village, UP hills, 1998).

The men I interviewed usually agreed with women's observations that men often tended to drink and fight in the meetings. Some said so outright: "There are often fights in the meeting, so women will not come" (Hanasur village, Karnataka, 1998).

Equally, women's participation in male-dominated CFGs is constrained by the social strictures on their visibility, mobility, and behavior, whether internalized by them or imposed by threat of gossip, reprimand or violence. Female seclusion norms are the most restricting. Although traditionally uncommon among hill and tribal communities, such norms (e.g., veiling) have been adopted by some, under influence of upper-caste Hindu practices. More pervasive, however, is the social emphasis on self-effacement, shyness and soft speech that many women imbibe.

Gendered behavioral norms also restrict women by creating subtle hierarchies, such as requiring them to sit on the floor while men (especially older ones) sit on cots or chairs. Even where everyone sits on a level, typically women (including EC members) sit on one side or at the back of the meeting space where they are less visible. This makes them less effective in raising a point, while issues raised by male members who sit in front receive priority. Moreover, when senior family males are present, women hesitate in attending meetings, or speaking up at them, or opposing the men publicly. The hierarchy that marks "respectful" family behavior gets carried into community spaces. [26] In addition, the forest service staff is largely male (Narain, 1994), so that lines of authority and gender overlap.

The collective action literature has typically emphasized the enabling positive side of social norms, but from women's viewpoint these examples reflect the disabling "dark side" of many social norms.

(c) *Social perceptions*

Incorrect perceptions regarding women's abilities also impinge on men's reluctance to include women. Men often view women's involvement in CFGs as serving no useful purpose and tend to downplay their potential contributions. During my field interviews with mixed groups, for instance, while men answered questions women would listen attentively and keep the children quiet. But when I would begin interviewing the women, the men would smile, implying: Why ask her, what does she know? On my persisting, they would begin chatting among themselves, or interrupt the women and answer questions on their behalf, or just get up and leave.

Equally indicative of their perceptions are some of men's direct responses:

> There is no advantage in having women in the EC. We have been told by the forest officials that we must have two women in the committee, that is why we have included them (male to author, Pathari village, Karnataka).
>
> Calling all the women to the meeting just hampers the work of the agenda... It is true that women are the real users of the forest but our women have not yet participated in the meetings. They don't know much, they don't give solid opinions. I am a man, I attend the meeting. If I am prepared to make the female members of my family act according to what I say, why should they attend the meeting? (male respondent in Nepal, cited in Hobley, 1990, p. 310).
>
> Women can't make any helpful suggestions (man to author, Arjunpur village, Orissa, 1998).
>
> Women are illiterate. If they come to meetings, we men might as well stay at home (EC chairman to author, Ghusra village, Dang district, Nepal, 1998).

In some cases I asked the men who justified women's exclusion on the ground that women were illiterate, whether they themselves were literate. It turned out that many weren't! A recent three state study of 843 women representatives in India's village councils (Buch,

1999), indicates that illiteracy in itself is not the constraint to women being effective leaders, that it is argued to be.

Women encounter negative perceptions not only from village men but also from male forest officials. In West Bengal, for instance, women complained to Narain (1994) that male officials discouraged them from coming to the forest office, and rebuked them if they came in the evening. Roy, Mukerjee, Roy, Bhattacharya, and Bhadra (1993, pp. 15–16) similarly note that "the forest officers put very little value on what [women] say and always crosscheck with the men to verify the truth of [women's] words."

(d) *Men's entrenched claims and control over community structures*

Opposition to including women is stronger where men's claims are already entrenched. For instance, where CFGs begin with only male members, or where men feel they have a prior claim to the forest, they resist new claimants. In Basapur village (Karnataka) men reacted to the idea of including women as follows: "Women have DWARCA, [27] they have savings groups, why don't you leave the CFGs to us men?" In Kudamunda village, Orissa, women wanted their own separate patch for protection because (they said): "If we have our own forest, we would not need to ask the men each time for a bit of wood." "They are not willing to give us even a patch to protect. Why would they be willing to give us a whole tree if we asked?" Elsewhere, in the UP hills, women from Bitholi village told me that when they closed off a patch of open grazing land, the men objected and insisted on getting the grazing reopened.

Men are also able to assert their interests better through their prior control over community structures and village public forums. Where there are caste/class differences (as discussed further below) low-caste poor men too are disadvantaged in this respect relative to the upper-caste rich.

(e) *Personal endowments and attributes*

The fact that rural women typically lack personal property and are seldom well connected politically, also reduces the weight of their opinions; and limited experience of interaction in public forums undermines their effectiveness. Some of these disadvantages can be overcome if the women are older, married, have leadership qualities, and the self-confidence to speak up. In many CFGs, the active women members are mostly widows, or older married women living in their parental homes (Britt, 1993; Narain, 1994), women whose social positioning, as Britt observes, "enables them to travel more freely, speak more loudly, and assume the posture of local leaders." Such women also carry a lower burden of domestic work than do young married women.

(f) *Household endowments and attributes*

Finally, the class and caste position of the woman's household is likely to matter where the village is multi-caste, with a dominance of the upper caste, or where the CFG is constituted of several villages that are caste/class homogeneous in themselves, but differ hierarchically in this respect from other villages in the CFG. [28] But, the impact of caste is not linear. On the one hand, being low caste and poor can reduce a person's bargaining power within a predominantly upper-caste community; on the other hand, low-caste women are also less subject than upper-caste ones to norms that restrict their mobility and stifle their speech.

Strikingly many of the above constraints are common across the different regions studied. This is also indicated by the quotations given, in which women from quite diverse regions of India and Nepal describe their constraints in very similar ways. This does not imply that cultural diversity is irrelevant in defining gendered norms and perceptions. But in relation to public decision-making forums traditionally women's exclusion was near universal across South Asia. Even in matrilineal communities decision-making authority in community councils was vested in men (Agarwal, 1994). On this count therefore cultural and geographic variation does not appear to make a notable difference. Moreover, the range of regional difference in women's social situation is relatively small within the context of CFG functioning, given (as noted earlier) that most CFGs are still located among tribal and hill communities. Regional/cultural differences could, however, prove an important determinant of women's participation as more CFGs are formed in mixed caste contexts. Such differences could also affect CFG responsiveness to NGO attempts at promoting women's participation, with regions and communities with historically less gender bias being more responsive.

7. ENHANCING PARTICIPATION: THE BARGAINING FRAMEWORK

How can the noted factors be changed to improve outcomes? Some factors (e.g., membership rules) are embedded in the design of community forestry programs; but several others have deep economic and social roots that predate the programs. The programs could, however, either further entrench even the historical factors, or serve as an opportunity for weakening their hold. A promising analytical framework for examining the possibilities of positive change is that of bargaining. In terms of this framework, women's ability to change rules, norms, perceptions and endowments in a gender-progressive direction would depend especially on their bargaining power with the State, the community and the family, as the case may be.

(a) *Bargaining: some conceptual issues* [29]

Given the substantial literature on bargaining, here it suffices to mention only the broad parameters of bargaining situations. Broadly, a bargaining situation is one in which interaction between two parties contains elements of both cooperation and conflict. Both parties cooperate in so far as cooperative arrangements make each of them better off than noncooperation. But, many different cooperative outcomes are possible that are beneficial to the negotiating parties relative to noncooperation. Among the set of such outcomes, some are more favorable than others to each party—that is one party's gain is another party's loss—hence the underlying conflict between those cooperating. Which outcome emerges depends on the relative bargaining power of the parties. Insights into the determinants of bargaining power can illuminate both why inequality persists and how it may be reduced.

Traditionally economists have applied these ideas within the game-theoretic mode and with little attention to gender. Recent interest in incorporating intrahousehold gender dynamics has yielded some interesting formulations of bargaining models, but with little application to arenas such as the State and the community, and inadequate attention to the impact of qualitative factors on bargaining outcomes. [30] In our discussion at least two types of shifts from this standard approach appear necessary: one, taking account of qualitative factors such as social norms and perceptions; two extending the framework to include extrahousehold nonmarket arenas, in particular the State and the community. Both extensions are likely to need a less restrictive formulation than of a formal game-theoretic model. Here it is useful to distinguish between a bargaining *approach* and formal models. [31] A bargaining approach that is not constrained by the structure that formal modeling requires, would allow us to more freely develop and apply the concepts of cooperation-conflict and bargaining power to the noted extrahousehold arenas. It would also allow a freer engagement with the complexities of gender analysis and with qualitative factors.

In the present discussion, applying the bargaining approach to interactions within three major arenas—the State, the community and the family—is especially relevant. For instance, some CFG rules, such as eligibility to JFM membership are made at the State level, others that relate to say forest closure or product distribution are made largely at the community level. Social norms, social perceptions, and endowments are constituted in all three arenas. What would affect women's ability to bargain effectively in these arenas? [32]

(i) *The State*

Consider first bargaining with the State. To begin with, the State itself can be seen as an arena of bargaining at multiple levels. It may, for instance, formulate gender-progressive policies for community forestry at the highest level, but the local bureaucracy with less commitment to gender equality may resist their implementation (as revealed by the attitudes of some of the forest officials described earlier). Or some State departments (such as women's ministries), or key individuals within departments, may pursue gender-progressive policies within an overall retrogressive State structure. The elements of the State more committed to gender equality would be the ones that a group of women (or a group representing women's interests) could effectively cooperate with, even while being in conflict with other elements. The State, in turn, would have an interest in responding positively to demands from gender-progressive groups because of political pressure, or pressure from international aid agencies, or because it recognizes the inefficacy of its own machinery in implementing some essential development programs. In India, the State's recognition of NGO contribution in community forestry is a case in point.

We would expect village women's bargaining strength with the State to depend on a complex set of factors, such as whether they function as a group or as individuals, and the cohesiveness and strength of the group. The bargaining power of such a group is likely to be higher the larger and more unified it is, the more the political weight carried by the castes of which it is composed, the greater its command over economic resources, the more the support it can muster from gender-progressive elements within the State and from NGOs, the media, academics, and international donors, and the more State officials are influenced by gender-progressive ideas.

(ii) *The community*

Within the community, again, there are elements of both potential conflict and potential gain from cooperation between individuals or between subsets of individuals. Implicit or explicit bargaining can occur between an individual (or a subset of individuals) and other community members over the formulation and/or enforcement of rules and norms governing, say, economic resource use and social behavior. Noncompliance with CFG rules could be seen as a form of implicit bargaining.

As with the State, women's bargaining power with the community would be enhanced if they have support from external agents such as NGOs and the State. Group cohesiveness and strength would again be important. For instance, it is easier to penalize an individual woman who breaks seclusion norms by casting aspersions on her character, than if a group of women transgress the norms (Agarwal, 1994). It is also important to examine what historically-constructed gendered norms are prevalent in the region. In addition, in a multi-caste/class-heterogeneous village, we would expect women's bargaining power to depend on their group's socioeconomic composition. In the sharing of common pool resources, for instance, the negotiating strength of a group constituted of low-caste or poor peasant women would tend to be weaker than one of high-caste or rich household women whose caste or class commands greater village power.

(iii) *The family*

Intrafamily bargaining for a more equitable sharing of benefits or tasks, or for greater freedom to participate publicly, is the most complex. As spelled out in Agarwal (1994, 1997b), broadly we would expect especially four types of factors to affect woman's intrahousehold bargaining power: her personal endowments and attributes (educational level, whether she earns an income or owns property, her age, marital status, etc.), her ability to draw upon extrahousehold support from friends, relatives, the State, women's groups and gender-progressive NGOs within and outside the village, social norms (which define who gets what, or who does what within the household), and social perceptions (say about deservedness).

In the above formulation, external agent support, group strength and social norms and perceptions are seen as the common determinants of bargaining power in all three arenas. Here village women's group strength derives not merely from the number of women seeking a change in rules and norms, but also from their willingness to act collectively in their common gender interest, over and above the possible divisiveness of caste or class. The creation of such group identity would need to be part of the process of improving outcomes for women.

Social norms can affect bargaining power both directly and indirectly. For instance, female seclusion norms reduce women's ability to bargain for CFG rule changes directly by restricting women's presence in public spaces, and indirectly by reducing women's ability to build contacts with NGOs and State officials. Norms can also influence how bargaining is conducted: e.g., covertly or overtly. Where social norms stifle explicit voice, women often depend on covert (and less effective) forms of contestation within the family, such as persistent complaining. Social perceptions affect women's bargaining power in so far as perceptions discount women's actual contributions. Much of what village women do is typically undervalued by families and communities. Moreover, if women internalize these perceptions they can self-restrict their options and efforts for change. To enhance women's bargaining power, a necessary step would thus be to alter both how they perceive themselves, and how their families and communities perceive them. Ground experience reveals some of these key elements of the bargaining framework.

(b) *Bargaining: ground experience thus far*

(i) *Bargaining with the state*

JFM experience indicates that pressure from external agents such as NGOs, donors, and key

individuals can prove significant in changing the initial rules of entry. For instance, since the early 1990s several states have made their JFM membership rules more gender inclusive, and many new JFM states have adopted such rules (Table 1). More recently the Central government has passed new guidelines directing all states to ensure that 50% of JFM general body members are women (Government of India, 2000). Here village women did not have to bargain explicitly for change. External agent support and the greater gender sensitivity brought about by the women's movement in South Asia gave village women implicit bargaining power. This process can be carried further if the Federations of CFGs catalyzed by NGOs to "scale up" CFGs cross-regionally, [33] are more gender sensitive. These Federations enhance the bargaining power of local groups *vis-à-vis* the State. More female forest service officials at levels that interact closely with communities would also help village women better represent their concerns to the State.

(ii) *Bargaining with the community*

Ensuring that women-inclusive membership rules are implemented by the community, or that women have more voice in CFG forums, is found to be more difficult than rule changes at the State level. External agent support has helped to some extent. Some Indian NGOs, for instance, have used their bargaining power on women's behalf, by making CFG formation conditional on high female membership. One Gujarat NGO insists on 50% women when starting new CFGs. Similarly, some Indian forest officials have substantially increased women's CFG presence by stipulating that there should be at least 30% women in the GB (Viegas & Menon, 1993), or that meetings would only be held if the men also invited the women. Women, on being so invited, often turn up in strength (Sarin, 1998).

External agent bargaining power appears to work best when women's participation is pushed from the beginning. Once men's "territorial interests" get entrenched, women's entry can prove difficult, even if the formal rules are favorable. Involving women from the start can also reduce subsequent gender conflict over rules. How rules are perceived and interpreted again makes a difference. For example, one NGO staff member in Gujarat, when forming a CFG found that when he said: "there should be at least two women" (the stipulated minimum), the villagers perceived this as implying a maximum of two women, so only two would join. Now he says: "anyone who wants to, can become a member," leading to larger numbers of women joining (personal communication by the NGO staff member). Similarly some gender-sensitive NGO personnel have increased women's voice in mixed meetings by soliciting their opinions and giving them weight, or have brought up women's complaints about firewood shortages at CFG meetings, leading to the forest being opened for a few days annually (personal observation, Gujarat, 1995).

Not all regions, however, have external agents committed to gender equity. A larger and sustained impact is likely to need women's active input. Left to themselves women typically rely on covert and individual forms of protest (their "everyday forms of resistance"), ranging from simply ignoring the closure rules or challenging the authority of the male guard, to persistent complaining. Sometimes, this bears fruit:

> After our complaints, women and men had a joint meeting and decided to open the forest for a few days for firewood collection, since everyone has to cook (women to author, Asundriya village, Gujarat, 1999).

> The seven-day opening was inadequate, so women users complained. Now they open the forest for eleven days (women to author, Laxmi Deurali village, Kaski, Nepal, 1998).

But complaining or breaking rules are seldom found to be the most effective ways of changing rules. For effective change, women are likely to need more formal involvement in rule making and the bargaining power to ensure changes in their favor.

Ground experience suggests that for more voice in mixed forums and for challenging restrictive social norms and perceptions, would need, for a start, a critical mass of vocal women, and a sense of group identity. As some women in the UP hills, interviewed by Britt (1993, p. 146), stressed: "without a good majority of women present it is impossible to express opinions." The importance of a critical mass has also been strikingly noted in the western context. Dahlerup (1988), for instance, in her study of Scandinavian women politicians found that gender stereotyping and even openly exclusionary practices were common when women were few in number. But once women became a significant minority (passing a threshold of some 30% seats in Parliament or local councils), there was less stereotyping and

open exclusion by men, a less aggressive tone in discussions, a greater accommodation of family obligations in scheduling meetings, and a greater weight given to women's concerns in policy formulation.

In South Asia, however, an additional initial step appears necessary, namely building women's self-confidence in public interactions. There is a growing consensus among NGOs and elements of the State that for increasing women's self-confidence, and their numbers and voice in public forums, the formation of separate women's groups is essential. Maya Devi (a Nepalese activist with long experience in group organizing) puts it emphatically:

> In mixed groups when women speak men make fun of them, so women need to learn to deal with this... When women join a [separate] group they gradually lose their fear of making fools of themselves when speaking up... Women need their own small groups. This is what I know from my 22 years of experience working with the government and NGOs.

It is less clear, however, what type of groups these should be. In some cases, all-women CFGs have been formed, many of which have come close to fulfilling the empowerment function of participation in my typology. As Pratibha Mundergee notes from 16 years of experience with a rural development NGO in Karnataka:

> Yes, all women's CFGs have changed women's lives. Women now go to government offices themselves, including the Block Development Office. They talk to the forest department officials, they meet the range officers and the forester. Earlier they did not have the confidence to do so (personal communication, 1998).

All-women CFGs (as noted) are special cases, however, still small in number and area protected. To enhance women's presence and voice in the more typical mixed CFGs, other kinds of efforts appear necessary. Toward this end, some NGOs have formed all-women savings-and-credit groups; others have formed more multi-functional groups, such as *mahila mangal dals* in the UP hills or *amma samuhs* in Nepal.

On the positive side, such separate women's groups have enhanced women's self-confidence and sense of collective identity. They have also improved male perceptions about women's capabilities and weakened social norms that earlier defined only the domestic as legitimate female space. The responses below are fairly typical:

> Initially men objected to our going to meetings. But our *amma samuh* helped men understand better. When we women became united in the *amma samuh*, men saw we were doing good work. That also helped (women to author in Tallo Goundonda village, Kaski district, Nepal, 1998).

> Men used to shut us up and say we shouldn't speak. Women learned to speak up in a *sangathan* (group). Earlier we couldn't speak up even at home. Now we can be more assertive and also go out. I am able to help other women gain confidence as well (woman leader to author, Vejpur village, Gujarat, 1999).

> Women used to hide from us initially, but now they have so much confidence they feel they can even teach the new workers in our organization (male NGO activist to author, UP hills, 1998).

In fact, these experiences echo those of many non-CFG rural women's groups across South Asia, namely that women's group strength and visible contributions, along with external agent support, can change norms and perceptions and increase the social acceptance of women in public roles.

On the negative side, however, many separate women's groups have sharpened gender segregation in collective functioning: for instance women's savings groups are being seen as "women's groups" and CFGs as "men's groups." Moreover, separate groups do not noticeably change the gender dynamics of *mixed* group functioning. Separate women's groups thus appear to be a necessary but not a sufficient condition for women's effective participation in CFGs. For their effective involvement, more concerted efforts appear necessary to integrate women's separate groups with the CFGs, as only a few NGOs have attempted.

(iii) *Bargaining within the family*

Most external agents, including rural NGOs, do not directly tackle intrahousehold gender relations, although forming all-women groups can have indirect positive effects. For instance:

> There were one or two men who objected to their wives attending our meetings, and said you can't go. But when our women's association came to their aid, the men let their wives go (women to author in Almavadi village, Gujarat, 1998).

> My husband feels I contribute financially, take up employment, obtain credit for the home. This increases his respect for me (woman to author, Almavadi village, Gujarat, 1998).

In other words, women's visible contributions and collective strength can loosen restrictive social norms, and change a man's view of his wife's deservedness. But certain norms, such as the gender division of domestic work, remain rather inflexible; and gender inequalities in economic endowments remain unaltered. These historically entrenched factors continue to weaken women's bargaining position *vis-à-vis* men.

(iv) *Domains beyond CFGs*

Finally women's participation in CFGs is affected by the structural and cultural inequalities of class and caste within which CFGs are located. These inequalities are unlikely to decline substantially within the parameters of CFG functioning. Similarly, norms and perceptions are constituted not only in the village but also in extra-village educational and religious establishments and the media. They would thus all have a role in shaping alternative attitudes.

8. CONCLUSION

Participatory exclusion, as it affects women, extends into many arenas. CFGs are one illustrative context (although a significant one, since they impinge on the everyday needs of many million). Similar exclusionary processes have also been observed in other collectivities, such as water users associations, village councils, and the many new governance structures being promoted today in the name of decentralized institution building.

Moreover, some of the factors that restrict women's public participation in South Asia also do so elsewhere. Even in Western countries, for example, social norms define domestic work and childcare as women's work, and social perceptions discount women's abilities and opinions. Thus here too, for women's effective participation in public forums, strengthening their bargaining power would be important, including by promoting a critical mass, as the Scandinavian example illustrated.

In this sense, participatory exclusion predicated on gender is a phenomenon that cuts across many contexts and countries, and the factors underlying it appear to have more universal features than hitherto recognized. The participation typology and bargaining framework outlined here would thus have applicability beyond CFGs and South Asia.

NOTES

1. In India, the term "state" relates to the biggest administrative divisions within the country and is not to be confused with "State," used throughout in the political economy sense of the word. In Nepal the biggest administrative divisions are "districts." In India, districts are smaller divisions within states.

2. See, among others, Bagadion and Korten (1991), Cernea (1991), Chopra, Kadekodi, and Murty (1990), Cohen and Uphoff (1977), Isham, Narayan, and Pitchett (1995), Michener (1998), Molinas (1998), Narayan (1996), Paul (1987), Pretty (1995), Uphoff (1991) and White (1996).

3. See, e.g., Baland and Platteau (1996, 1998), Bardhan (1993), Chopra *et al.* (1990), Ostrom (1990), and Wade (1988).

4. For example, Bardhan (1993, 1999), Seabright (1997), Baland and Platteau (1996, 1999).

5. Among the exceptions is Molinas' (1998) study for Latin America.

6. For India, see Natrajan (1995).

7. I will be using CFG as a general term to cover all types of community forestry groups.

8. This figure is different from the approximately 63.3 mha under *forest cover* as shown by satellite data.

9. Roy, Mukerjee, and Chatterjee (1992), Guhathakurta and Bhatia (1992), and Narain (1994); also my fieldwork in 1998–99.

10. Kant, Singh, and Singh (1991), Singh and Kumar (1993), and my fieldwork in 1998–99.

11. Sharma and Sinha (1993), Tata Energy Research Institute (1995); also my fieldvisits in 1998–99.

12. Moffatt (1998); and periodic reports of the Nepal–UK Community Forestry Program, Kathmandu.

13. Personal communication, Dewan Nagarkoti, Uttarakhand Sewa Nidhi, UP hills, 1998.

14. For example, Correa (1997), Adhikari, Yadav, Ray, and Kumar (1991), Mansingh (1991), Regmi (1989), Singh and Burra (1993), and Raju (1997); also my fieldvisits in 1998–99.

15. Narain (1994), Viegas and Menon (1993); also my fieldvisits in 1998–99.

16. See, e.g., Adhikari *et al*. (1991), Singh (1993), Agarwal (1997a).

17. See also Stewart (1996), for a somewhat different distinction.

18. See also Agarwal (2000a,b).

19. See also Jodha (1986) on differences between landed and landpoor rural households in India, in their relative dependence on the commons for firewood and fodder.

20. My fieldwork; also Ecotech Services (1999).

21. Guhathakurta and Bhatia (1992), and my fieldwork in 1998–99.

22. See, e.g., Raju, Vaghela, and Raju (1993), Kant *et al*. (1991), and SPWD (1994).

23. See, Viegas and Menon (1993), and Chopra and Gulati (1997).

24. For example, Shah and Shah (1995), Singh and Kumar (1993), and Agarwal (1997a); also my field interviews during 1998–99.

25. See, especially, Ostrom (1990), and Baland and Platteau (1996).

26. See also, Raju (1997) and Hobley (1990).

27. DWACRA: Development of Women and Children in Rural Areas. This is an anti-poverty program of the Indian government under which, among other things, women's groups are given subsidized loans for income-generating activities.

28. My fieldvisits in 1998–99. See also, Sarin (1998) and Hobley (1996).

29. For elaboration, see Agarwal (1997b).

30. For an overview of these models, see especially discussions in Agarwal (1997b), Haddad, Hoddinott, and Alderman (1994), Katz (1997), and Seiz (1999). On qualitative aspects, see also Sen (1990).

31. For elaboration, see also Agarwal (1997b) and Seiz (1991).

32. See Agarwal (1994, 2000a) for a detailed discussion.

33. See, e.g., Underwood (1997) and Britt (1993). Also personal observation during fieldwork.

REFERENCES

Adhikari, N., Yadav, G., Ray, S. B., & Kumar, S. (1991). Process documentation of women's involvement in forest management at Maheshpur, Ranchi. In R. Singh (Ed.), *Managing the village commons, Proceedings of the national workshop*, December 15–16 (pp. 118–123). Indian Institute of Forest Management, Bhopal.

Agarwal, B. (1986). *Cold hearths and barren slopes: The woodfuel crisis in the Third World*. Delhi: Allied Publishers; London: Zed Books.

Agarwal, B. (1987). Under the cooking pot: The political economy of the domestic fuel crisis in rural South Asia. *IDS Bulletin*, *18*(1), 1–22.

Agarwal, B. (1994). *A field of one's own: Gender and land rights in South Asia*. Cambridge: Cambridge University Press.

Agarwal, B. (1997a). Environmental action, gender equity and women's participation. *Development and Change*, *28*(1), 1–44.

Agarwal, B. (1997b). "Bargaining" and gender relations: Within and beyond the household. *Feminist Economics*, *3*(1), 1–51.

Agarwal, B. (2000a). *Group functioning and community forestry in South Asia: A gender analysis and conceptual framework*. Working Paper No. 172. UNU/WIDER, World Institute for Development Economics Research, Helsinki.

Agarwal, B. (2000b). Conceptualizing environmental collective action: Why gender matters. *Cambridge Journal of Economics*, *24*(3), 283–310.

Agrawal, A. (1999). *State formation in community spaces: Control over forests in the Kumaon Himalaya, India*. Paper prepared for presentation at the University of California, Berkeley, Workshop on Environmental Politics, April 30.

Bahuguna, V. K. (2000). *Joint forest management: An instrument for sustainable forest management*. Paper presented at a conference on India's Forests Beyond

2000, Commonwealth Forestry Association (India), India Habitat Center, Delhi, April 19–21.

Bagadion, B. U., & Korten, F. F. (1991). Developing irrigator's organisations: a learning process approach. In M. M. Cernea (Ed.), *Putting people first* (pp. 73–112). New York: Oxford University Press.

Bardhan, P. (1993). Analytics of the institutions of informal cooperation in rural development. *World Development*, *21*(4), 633–639.

Bardhan, P. (1999). *Water community: An empirical analysis of cooperation on irrigation in South India*. Mimeo. Department of Economics, University of California at Berkeley.

Baland, J. M., & Platteau, J. P. (1996). *Halting degradation of natural resources: Is there a role for rural communities?* Oxford: Clarendon Press.

Baland, J. M., & Platteau, J. P. (1999). The ambiguous impact of inequality on local resource management. *World Development*, *27*(5), 773–788.

Britt, C. (1993). *Out of the wood? Local institutions and community forest management in two Central Himalayan Villages*. Draft. Cornell University, Ithaca.

Brara, R. (1987). *Shifting sands: A study of rights in common pastures*. Report. Institute of Development Studies, Jaipur.

Buch, N. (1999). *From oppression to assertion: a study of panchayats and women in MP, Rajasthan and UP*. Report. Center for Women's Development Studies, New Delhi.

Cernea, M. M. (1991). *Putting people first: Sociological variables in rural development*. New York: Oxford University Press and World Bank.

Chen, M. (1993). Women and wasteland development in India: An issue paper. In A. Singh, & N. Burra (Eds.), *Women and wasteland development in India* (pp. 21–90). Delhi: Sage.

Chopra, K., & Gulati, S. C. (1997). Environmental degradation and population movements: The role of property rights. *Environment and Resource Economics*, *9*, 383–408.

Chopra, K., Kadekodi, G. K., & Murty, M. N. (1990). *Participatory development: People and common property resource*. New Delhi: Sage.

Cohen, J. M., & Uphoff, N. (1977). *Rural development participation: Concepts and measures for project design, implementation and evaluation*. Ithaca, NY: Rural Development Committee, Cornell University.

Correa, M. (1997). *Gender and joint forest planning and management: A research study in Uttara Kannada District, Karnataka*. Dharwad: India Development Service.

Dahal, D. R. (1994). *A review of forest user groups: Case studies from Eastern Nepal*. Kathmandu: International Center for Integrated Mountain Development (ICIMOD).

Dahlerup, D. (1988). From a small to a large majority: Women in Scandinavian politics. *Scandinavian Political Studies*, *11*(4), 275–298.

Dwyer, D., & Bruce, J. (Eds.). (1988). *A home divided: Women and income control in the Third World*. Standford, CA: Standford University Press.

Ecotech Services (1999). *A study on management of community forestry and local institutions: State perspectives and case studies*, Vols. I and II. Ecotech Services, New Delhi.

Gaul, K. K. (1994). *Negotiated positions and shifting terrains: Apprehension of forest resources in the Western Himalaya*. PhD dissertation, University of Massachusetts, Amherst.

Government of India (2000). *Guidelines for strengthening of the Joint Forest Management Programme*, Ministry of Environment and Forests, No. 22-8/2000, JFM (FPD), February 21.

Government of Nepal (2000). Forest user group statistics. Community and Private Forestry Division, Department of Forests, Kathmandu.

Guhathakurta, P., & Bhatia, K. S. (1992). *A case study on gender and forest resources in West Bengal*. Delhi: World Bank.

Haddad, L., Hoddinott, J., & Alderman, H. (1994). *Intrahousehold resource allocation: An overview*. Policy Research Working Paper 1255. The World Bank, Washington, DC.

Hobley, M. (1990). *Social reality, social forestry: The case of two Nepalese panchayats*. PhD dissertation, Department of Forestry, Australian National University, Canberra.

Hobley, M. (1996). *Participatory forestry: The process of change in India and Nepal*. London: Overseas Development Institute.

Humphries, J. (1990). Enclosures, common rights and women: The monetization of families in the late 18th and early 19th centuries. *Journal of Economic History*, *1*(1), 17–42.

Isham, J., Narayan, D., & Pitchett, L. (1995). Does participation improve performance: Establishing causality with subjective data. *The World Bank Economic Review*, *9*(2), 175–200.

Jodha, N. S. (1986). Common property resources and the rural poor. *Economic and Political Weekly*, *21*(27), 1169–1181.

Joshi, S. (1998). *Report of the workshop on JFM and women*. Agha Khan Rural Support Programme, Netrang, Gujarat, September 14.

Kant, S., Singh, N. M., & Singh, K. K. (1991). *Community-based forest management systems: Case studies from Orissa*. SIDA, New Delhi; Indian Institute of Forest Management, Bhopal; ISO/Swedforest, New Delhi.

Katz, E. (1997). Intra-household economics of voice and exit. *Feminist Economics*, *3*(3), 25–46.

Lal, J. B. (1992). Economic value of India's forest stock. In *The price of forests*. Center for Science and Environment, Delhi.

Mansingh, O. (1991). *Community organization and ecological restoration: An analysis of strategic options for NGOs in Central Himalaya, with particular reference to the Community Forestry Programme of the NGO Chirag*. MA dissertation in Rural Development, AFRAS, University of Sussex, UK.

Michener, V. J. (1998). The participatory approach: Contradiction and cooperation in Burkina Faso. *World Development*, *26*(12), 2105–2118.

Moffatt, M. (1998). *A gender analysis of community forestry and community leasehold forestry in Nepal with a macro-meso-micro framework*. M.A. dissertation in Development Policy Analysis, Department of Economics and Social Studies, University of Manchester, UK.

Molinas, J. (1998). The impact of inequality, gender, external assistance and social capital on local-level cooperation. *World Development*, *26*(3), 413–431.

Narain, U. (1994). *Women's involvement in joint forest management: Analyzing the issues*. Draft paper. Ford Foundation, New Delhi, May 6.

Narayan, D. (1996). *The contribution of people's participation: Evidence from 21 rural water supply projects*. Occasional Paper Series No. 1. Environmentally Sustainable Development. World Bank, Washington, DC.

Natrajan, I. (1995). Trends in firewood consumption in rural India. *Margin*, *28*(1), 41–45.

Ostrom, E. (1990). *Governing the commons*. Cambridge: Cambridge University Press.

Pandey, S. (1990). Women in Hattidunde forest management in Dhading District, Nepal, MPE Series No. 9. ICIMOD, Kathmandu.

Paul, S. (1987). *Community participation in development projects: The World Bank experience*. Discussion Paper No. 6. World Bank, Washington, DC.

Poffenberger, M., & McGean, B. (Eds.). (1996). *Village voices, forest choices: Joint forest management in India*. Delhi: Oxford University Press.

Pretty, J. N. (1995). Participatory learning for sustainable agriculture. *World Development*, *23*(8), 1247–1263.

Raju, G., Vaghela, R., & Raju, M. S. (1993). *Development of people's institutions for management of forests*. Ahemdabad: VIKSAT.

Raju, M. (1997). *Seeking niches in forest canopy: an enquiry into women's participation*, Report. Ford Foundation, New Delhi.

Regmi, S. C. (1989). *Female participation in forest resource management. A case study of a women's forest committee in a Nepalese Village*. MSc dissertation in Social Development, Graduate School of the Ateneo de Manila University.

Roy, S. B., Mukerjee, R., & Chatterjee, M. (1992). *Endogenous development and gender roles in participatory forest management*. Calcutta: IBRAD.

Roy, S. B., Mukerjee, R., Roy, D. S., Bhattacharya, P., & Bhadra, R. K. (1993). *Profile of joint forest protection committee at Sarugarh Range, West Bengal*. Working Paper No. 16, IBRAD, Calcutta.

Sarin, M. (1995). Regenerating India's forest: Reconciling gender equity and joint forest management. *IDS Bulletin*, *26*(1), 83–91.

Sarin, M. (1998). *Who is gaining? Who is losing? Gender and equality concerns in joint forest management*. New Delhi: Society for Promotion of Wastelands Development (SPWD).

Seabright, P. (1997). *The effect of inequality on collective action*. Draft paper. Department of Applied Economics, University of Cambridge, UK.

Seiz, J. (1991). The bargaining approach and feminist methodology. *Review of Radical Political Economics*, Spring.

Seiz, J. (1999). Game theory and bargaining models. In *Elgar Companion to Feminist Economics* (pp. 379–390). Cheltenham: Edward Elgar.

Seeley, J. (1996). Who benefits from participatory forest management. *Banko Janakari*, *6*(1), 38–39.

Sen, A. K. (1990). Gender and cooperative conflicts. In I. Tinker (Ed.), *Persistent inequalities: Women and world development* (pp. 123–149). New York: Oxford University Press.

Shah, A. (1997). Jurisdiction versus equity: Tale of two villages. *Wastelands News*, February–April, 5863.

Shah, M. K., & Shah, P. (1995). Gender, environment and livelihood security: An alternative viewpoint from India. *IDS Bulletin*, *26*(1), 75–82.

Sharma, A., & Sinha, A. (1993). *A study of the common property resources in the project area of the Central Himalaya Rural Action Group*, Report. Indian Institute of Forest Management, Bhopal, Madhya Pradesh.

Singh, N. M. (1993). Regional workshop of forest development on joint forest management at Keonjhar. In *Proceedings of the workshop*. Bhubaneswar, Orissa, May 28–29.

Singh, A., & Burra, N. (Eds.). (1993). *Women and wasteland development in India*. New Delhi: Sage.

Singh, N., & Kumar, K. (1993). *Community initiatives to protect and manage forests in Balangir and Sambalpur Districts*, Report. SIDA, New Delhi.

SPWD (1994). *Joint forest management update*, 1993. SPWD, New Delhi.

SPWD (1998). *Joint forest management update*, 1997. SPWD, New Delhi.

Stewart, F. (1996). Groups for good or ill. *Oxford Development Studies*, *24*(1), 9–25.

Tata Energy Research Institute (1995). *Community participation in van panchayats of Kumaon region of Uttar Pradesh*. Paper No. 1, Part I. TERI, Delhi.

Underwood, B. (1997). *Village institutions and federations*. Agha Khan Rural Support Programme (India), Ahemdabad.

Uphoff, N. (1991). Fitting projects to people. In M. M. Cernea (Ed.), *Putting people first: Sociological variables in rural development*. New York: Oxford University Press.

Viegas, P., & Menon, G. (1993). Bringing government and people together: Forest protection committees of West Bengal – role and participation of women. In A. Singh, & N. Burra (Eds.), *Women and wasteland development in India* (pp. 171–210). New Delhi: Sage.

Wade, R. (1988). *Village republics: Economic conditions for collective action in South Asia*. Cambridge: Cambridge University Press.

White, S. (1996). Depoliticising development: The uses and abuses of participation. *Development in Practice*, *6*(1), 6–15.