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ANALYSIS

# Rule making in community forestry institutions: The difference women make

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ABSTRACT

Forest use rules determine what products are extracted from community governed forests, in what quantity, by what methods, and by whom. The nature of rules and the process by which they are formulated (e.g. who participates in formulating them) can impinge critically on institutional sustainability (given their potential impact on the commitment and incentive to protect), and on equity and conservation outcomes. This is well recognized in the substantial literature on institutions governing common pool resources (CPRs). It is also well recognized, although in relation to other types of institutions, such as legislatures and village councils, that there can be notable differences in women's and men's policy priorities. Yet there is surprisingly little existing work on, or statistical testing of, potential gender differences in rule making in institutions managing natural resources such as forests. This paper, based on the author's primary data for India and Nepal, seeks to fill this conceptual and empirical gap. It examines why we might expect women to favour different rules from men, and statistically tests whether the gender composition of the executive committees (ECs)—the main decision-making bodies of community forestry institutions (CFIs) in South Asia—makes a difference to the strictness of forest use rules. This is analyzed both by specifying a strictness index which aggregates rules across products and by examining rules for selected products, and both for all sample districts together and for each district separately. Gender is found to make a significant difference to the rules specified but not always in the expected direction. Given their substantial and daily dependence on local forests, especially for firewood and fodder, rural women may normally be expected to veer toward lenient rules of extraction. In fact, groups with more EC women and especially with all-women ECs tend to make stricter rules than other groups in most of the sample districts, except one district where they tend to make less strict rules. Greater strictness is attributable especially to the resource constraint faced by all-women groups (ie. CFIs with all-women ECs) which receive smaller and more degraded forests than groups with men. Less strict rules among CFIs in the exceptional district are attributable especially to the disproportionate presence of landless women on their ECs. In other words, not simply women's presence in rule making but also their economic class can matter. Strictness also varies by type of product, forest and population characteristics, the EC's average age and dominant caste, and monitoring constraints. The potential implications for equity, institutional sustainability and forest conservation are also discussed.



## 1. Introduction

> Male members of the forest committee have difficulties in 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 (Nepalese village women cited in Britt, 1993, 148)

The formulation of rules that define what is 'required, prohibited, or permitted' is widely recognized as central to the functioning of institutions governing common pool resources (CPRs) in the burgeoning literature on the subject.[1] Indeed, Ostrom (1990) identifies rule making as one of the central design principles for building enduring institutions for CPR governance. But are the rules likely to differ depending on who frames them? In particular, are men and women likely to frame different rules of forest use due to, say, differences in responsibilities and priorities? If so, the gender composition of the rule making body could significantly affect institutional functioning. Research relating to other types of institutions such as legislatures and village councils does point to notable differences in men's and women's policy priorities. A substantial body of work on legislators in democratic regimes, for instance, finds that women give significantly

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[1] The phrase in quotation marks is taken from Ostrom et al. (1997, 38). On the importance of rules see among others, Ostrom (1990), various articles in Ostrom et al. (1997), Baland and Platteau (1996), Mckean (1986), Wade (1988), Agrawal (1997), Arnold and Campbell (1986), Bardhan (2006), and references therein.

greater priority than their male colleagues to laws and policies that promote women's equality and empowerment, or that improve family welfare through health, education, childcare, housing and other human services.[2] Similarly, emerging work shows that women heads of local councils in India differ from male heads in the public goods they favour: women are found more likely to prioritize issues seen as falling largely in women's domain, such as drinking water and sanitation (e.g., Chattopadhyay and Duflo, 2004; Gandhi and Shah, 1991; Vijaylakshmi, 2004).

There is, however, surprisingly little existing research on whether women's presence in institutions managing natural resources, such as forests, is likely to make a difference to the decisions made, in particular the rules formulated for forest use. The limited existing discussion is largely inferential, with virtually no theorizing on why we might expect gender differences in rule making, or statistical testing (either for South Asia or elsewhere) of the actual impact of women's participation in rule formulation. This paper seeks to fill this conceptual and empirical gap. It examines whether the gender composition of the executive committees (ECs)—the principal decision-making bodies of community forestry institutions (CFIs) in South Asia[3]—makes a difference to forest use rules, especially their extent of strictness. Do groups with more women in their ECs make less or more strict rules? Does a larger proportion of poor landless women in the EC make a particular difference? Do all-women groups make rules of different strictness than, say, mixed-gender groups?

These questions are addressed on the basis of primary data for Gujarat (India) and Nepal, collected by me mainly during 2000–2001 from communities governing forest land, transferred to them by the government to protect and manage. Details about these institutions and fieldsites are given further below. Although the analysis is focused on South Asia, the framework, methodology and issues discussed would have wider geographic relevance.

## 2. Why forest use rules matter

The most important set of rules made by CFIs are those relating to forest use involving the extraction and distribution of forest products (also termed by some as 'allocation rules': Agrawal, 1997). Penalties for violating these rules could be seen as a secondary set of 'rules', but effectively penalties are a means of ensuring compliance to forest use rules, and not all CFIs specify detailed penalties.[4] I have therefore focused here on forest use rules. These rules determine what products are extracted and distributed from the protected area, in what quantity and frequency, by what means, when, and by whom. The rules matter for their potential impact on institutional sustainability, on the equity of benefit-sharing, and on forest conservation (which one might term the efficiency effect of governance).[5]

Consider firewood extraction. Potentially the rules can range from a complete ban on collection to varying degrees of permissible extraction. For instance, the collection of fallen twigs may be allowed, but taking drywood from the trees may be banned; or taking drywood may be allowed if done by hand, but not with an axe. Such extraction may be permitted throughout the year or only for a few days annually; and anyone may be permitted to enter the forest in this period or only one or two persons from member households. Other forest products may similarly be subject to varying restrictions, leading to numerous rule permutations.

On such rules would depend the benefits derived by the local population from forest protection. This impinges, first, on the incentive and commitment to protect the forest, since protection involves bearing costs and people expect appropriate benefits. These costs could either be direct, such as contributing to patrolling time or paying for a guard, or indirect, such as foregoing resource use by complying with the rules prescribed.[6]

Second, rules can have differential consequences by class and gender. Strict rules (a complete ban on extraction, for instance) affect the poorest households and women in general more adversely, given their substantial dependence on forests for subsistence. Women may end up spending more time and energy in firewood collection, economizing on fuel use, or using inferior and more health-damaging fuels as substitutes (Agarwal, 2001). Poor, landless women would be the most adversely affected. In other words, the equity and welfare outcomes of CFI formation could depend on the strictness of forest use rules.

Third, rules can affect forest condition but in rather complicated ways. Strict rules, if effectively implemented, can benefit regeneration, but overly strict rules are difficult to enforce and could increase violations and conflicts, with potentially damaging effects on forest condition. South Asia's colonial history is replete with examples of forest fires caused by resentful villagers whose customary collection rights were curtailed (Bhattacharya, 1992; Sivaramakrishnan, 1999). In contrast, moderate rules may prove beneficial for conservation by encouraging cooperation. Regeneration could also improve with moderate rules because some forms of extraction can enhance biomass growth. Similarly, clearing forest undergrowth can reduce the risk of fire. Forest use rules thus need to be neither so lenient as to degrade the resource further (by over-extraction), nor so strict as to undermine the incentive to protect and the ecological benefits of selected extraction. The appropriate level of strictness would be that which is adapted to local conditions.

The *process* of rule making—bottom–up or top–down—can also affect their impact. Even those who are adversely affected by the strict rules may accept them if they are involved in rulemaking. Among water users groups, for example, Bardhan (2006) found a positive association between rule compliance and participation in rule formulation. In other words, the very involvement in rule making (through consultation, representation or direct voice) of those most affected by the rules and who are expected to follow them could prove important for institutional sustainability. The EC's gender composition can help capture the impact of women's presence both on the rules made and (implicitly) on the process by which they are made.

## 3. Context and data

My analysis is based on CFIs in India and Nepal which manage government forests given over to local communities/user groups to protect and govern. Most groups, whether catalyzed by communities, NGOs or forest officials, are registered under the Joint Forest Management (JFM) programme launched in India in 1990 and a somewhat similar community forestry initiative in Nepal in 1993.[7] By the early 2000s, India had around 84,000 JFM groups involving 8.4 million households and 22.5% of its forest land, and Nepal had around 10,000 forest user groups involving about 1 million

[2] See, e.g. Berkman and O'Connor (1993), Carroll (2001), Darcy et al. (1994), High-Pippert and Comer (1998), Norris and Lovenduski (1995), Saint-Germain (1989), Swers (2001), Thomas (1994), Thomas and Welch (2001), Vallance (1988), and Wängnerud (2000).

[3] I use the term CFI to connote all types of community forestry groups in South Asia, but in particular those that fall under India's Joint Forest Management Programme and Nepal's community forestry programme.

[4] Monitoring for rule compliance, occasional tree planting, clearing undergrowth, and so on, that CFIs undertake are essentially 'activities' rather than rules.

[5] The term 'efficiency' is not used here to imply the conventional economics formulation of Pareto efficiency, but in a more general sense of the ability to produce a desired product, achieve institutional goals, etc., with a minimum of effort, expense, or waste.

[6] Of course in some contexts people can transcend material incentives and come to view conservation as having intrinsic worth (Agrawal, 2005).

[7] There is a vast body of work on community forestry in India and Nepal—its origins, functioning and performance—which cannot be discussed here, but see among others, Agarwal (2001, 2006, forthcoming), Sundar et al. (2001), Poffenberger and McGean (1996), Hobley (1996), Springate-Baginski and Blaikie (2007), and references therein.