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Community Forestry: Sustainability and Equity Issues (2020)

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Abstract

Governments around the world are increasingly handing over the authority for the management of national forests to the local communities. By 2016, governments in 62 countries had given communities legal rights to manage 732 million hectares of national forest. This approach has been particularly widespread in South Asia. Nepal and India have the oldest and largest programs in the region: community forest user groups in Nepal managed 22 million hectares of national forest in 2016, while forest protection committees in India managed 17 million ha of national forest in 2011. The experience of Nepal and India in the 1980s and 1990s encouraged the development of community forestry programs in many other countries. Overall, community forestry programs have been highly successful at providing a wide range of economic and social benefits to the participating user groups. However, concerns have been raised about the ability of user groups to manage their community forests on a sustainable basis and share products in an equitable manner. This entry reviews the literature related to the sustainability and equity of forest management in community forests.

Introduction

In recent years, many governments around the world have given local communities the authority to manage blocks of national forest (1-3). By 2016, governments had given communities legal rights to manage 732 million hectares of national forest in 62 countries, representing 28% of the forests in these countries (4). This approach has been particularly widespread in South Asia, where Nepal and India have the oldest and largest programs. In Nepal, 22,266 community forest (CF) user groups were managing 22 million hectares of national forest in 2016 (5), while in India, 84,632 forest protection committees were managing 17 million hectares of national forests in 2011 (6). The experience of Nepal and India in the 1980s and 1990s influenced the development of forestry programs in many other countries throughout the world (7). Overall, community forestry programs have been highly successful at providing a range of economic and social benefits to the participating user groups (1-3). However, concerns have been raised about the ability of user groups to manage their CFs on a sustainable basis and share the CF products in an equitable manner. This entry reviews the literature related to the sustainability and equity of forest management in CFs.

Operation of Community Forests

Community forestry has recently been defined as “forestry practices which directly involve direct forest users in common decision-making processes and implementation of forestry activities” (8, p. 3). There are many variations on how CFs operate in different countries. The key feature is that a group of traditional users of a national forest is given legal rights to manage a specific block of national forest under the guidance of the national forestry department (FD). Typically, the users must prepare a community forestry management plan for approval by the FD. Then, a CF management committee elected by the members assumes responsibility for management of the CF. The CF management committee organizes regular meetings of the users to implement the CF management plan.

An important activity in all CFs is patrolling to ensure that illegal harvesting of nontimber forest products or forest grazing is not taking place. In some CFs, one or more forest guards are hired, while in other CFs, the members take turns patrolling the forest on a voluntary basis. Besides patrolling, other management activities include nursery management, tree-planting in degraded areas, thinning and tending operations, and harvesting, as well as grazing and fire protection. When members require wood products, they request the CF management committee to issue a permit. The management committee verifies whether the member has already received his/her allocation of products according to the guidelines in the management plan. The CFs generate income from royalty payments from the harvesting of wood products and contributions from visitors. The funds are used for a variety of purposes, including providing loans and emergency support to members, constructing CF offices, providing meals during work days and meetings, and contributing to local development activities. In some countries, the CF user group is obligated to share some of the revenue with the FD.

Sustainability of Silviculture Practices in CFs

Community forestry programs have had a positive impact on forest cover and production of wood products. CFs have been found to exhibit greater increases in forest cover than government forests, according to studies based on analyses of satellite imagery and aerial photography (9-11) and forest inventories (12, 13). Community forestry has been linked to reduced rates of deforestation in countries such as Mexico (14). Community forestry may support carbon sequestration as a function of increased timber stocks: a study of CFs in Nepal estimated that annual forest growth resulted in the sequestration of 4,700 tCO₂e per year in 630 hectares (15). Community forestry also supports the efforts of governments in forest protection by increasing community participation in forest management: illegal logging on public lands has been reported to cost governments US\$10-15 billion per year (16).

However, there are concerns that some CF user groups may lack the technical skills and discipline to harvest their CFs in a sustainable manner (3, 16-18). Not all CFs are successfully managed: “members of some groups fail to perceive the growing scarcity of their local forests, fail to create effective rules to counteract the incentives to overharvest, and fail to enforce their own rules” (19, p. 228). In Nepal, it was reported that some CF user groups did not understand the forest inventory process, and the lack of simple approaches to regulating the harvests led to overharvesting, especially in CFs containing high value timber (20). Community ownership has been reported to have resulted in overharvesting and increased rates of deforestation in Papua New

Guinea (16). On the other hand, studies in Bhutan found that user groups were managing their CFs in accordance with their management plans without any indications of overharvesting (21, 22) or negative impacts on species composition, regeneration, and productivity (23).

There is concern that user group harvesting approaches, which are usually based on single-tree selection, may not promote natural regeneration of preferred species and maintain forest diversity. This issue has rarely been studied in CFs, but in other forests, single-tree selection was reported to reduce diversity and favor shade tolerant species (24, 25). Another study reported that regeneration and stem density of important species had not recovered two decades after selective logging in India (26). However, other studies have reported that single-tree selection caused less damage to forests than harvesting systems that create large gaps in the forest canopy (27), maintained tree diversity (28-31), and was operationally more efficient than group selection (32). Decisions about whether single-tree selection is appropriate for a particular CF will have to be based on the silvics of the concerned tree species.

Additionally, the concern is that user groups may high-grade the CFs through excessive removal of the straightest stems of economically valuable species, resulting in residual stands containing crooked and otherwise deformed overstory trees and genetic selection of inferior genotypes (33-35). This process of “high-grading,” which occurs when forest managers maximize current profits rather than long-term productivity has been well documented in North America (36, 37), but is widespread in many other regions.

Surprisingly, the sustainability of harvesting approaches in CFs has rarely been addressed by researchers: a recent review of participatory forest management (PFM) concluded that “the most conspicuous absence from the PFM literature is a thorough analysis of forestry itself, the technology of intervention in a forest ecosystem to provide a reliable supply of the products and benefits required by the users” (1, p. 2). A number of authors have noted that professional foresters have not yet been able to provide silvicultural guidance to meet the diverse needs of community forestry user groups (1, 3, 38-40). Victor (39, p. vi) summed up this issue as follows: “Unfortunately, the development and spread of alternative forest management practices (barefoot silviculture) for community forest management has yet to really begin. Most foresters’ knowledge is limited to mensuration and silviculture developed for timber production at an industrial scale. As a result, it is difficult for government foresters to readily provide appropriate advice to users and to recognize good and bad community forestry practice or to suggest feasible improvements.”

With the rapid expansion of community forestry in developing countries, it is important to assess the sustainability of CF harvesting practices, which are generally based on indigenous knowledge and traditional practices of selection cutting. If these harvesting practices are not sustainable, there is an urgent need for technical assistance and training.

Equity in Community Forests

Despite the many positive achievements of CFs, there is evidence that community forestry programs do not always provide benefits equally to all social groups, and in some cases, CFs may actually increase inequality (7, 41). The emerging equity issues are part of what the donor and practitioner literature refers to as the “second-generation” issues of community forestry (1). Two aspects of equity apply to community forestry: political equity, which involves participation in

decision-making and the ability of stakeholders to express their ideas and concerns; and economic equity, which involves the distribution of benefits (42). In the context of community forestry, equity is usually understood to refer to “fairness” rather than “equality”: the management of a CF is considered to be equitable if the members view their share of use and decision-making rights as being fair (43).

Several studies have investigated the lack of political equity (participation in decision-making) in CFs. Menzies (2, p. 17) noted that “traditional societies are rarely equitable and participatory... there may be aspects of traditional social capital that do not favor ‘just and wise’ management of forest resources.” Management committees in many countries were dominated by political, social, or economic elites and thus resulted in “elite capture” of the CF management process by men and high caste groups (17, 44, 45). Cultural norms have discouraged women from participating in CF meetings (46), and women were excluded from decision-making even in seemingly participatory user groups (47). However, there are also examples of positive political equity in CF: in contrast to the above studies, some authors have reported the positive impacts of increased understanding and collaboration in CFs between dominant and disadvantaged ethnic groups, and between men and women (48-51), and other studies have noted that involvement of elites in community development activities does not necessarily lead to elite capture (52, 53).

Other studies have documented a lack of economic equity (distribution of benefits) in some CFs. For example, some management committees in Nepal practiced favoritism in distributing products (46, 54), CF rules were biased towards meeting the needs of richer households (55), and influential members were allowed to graze their animals in CFs even when the bylaws of the CF prohibited forest grazing (56). In other CFs, the poorest members of the user groups had less access to CF products than the richer and higher caste members (57-61), and benefited less from loans from CF user group funds (62).

Equity has environmental consequences in addition to social consequences: a study of CFs in the Indian Himalayas found that improved forest condition was associated with reduced levels of conflict among users and greater involvement of women in decision-making—the CFs that did not have internal conflicts were better able to make effective decisions about forest protection, and women were able to make sound management decisions due to their strong involvement in the collection of forest products (63). Thus, national governments have many reasons for adopting community forestry programs that ensure equity in CFs. The linkage between equity and conservation is reflected in the objectives of the UN Convention on Biological Diversity, which include conservation of biological diversity, sustainable use of its components, and fair and equitable benefit sharing (64).

Attributes of CFs and National Forestry Policies That Result in Successful Management of CFs

Several authors have conducted multi-country studies to identify the attributes of successful user groups in an attempt to understand why some forestry user groups are better able than others to manage their forests sustainably and equitably (43, 65-67). These studies are complicated by different views of what constitutes success in a CF. The most common indicator of successful forest management is improved forest condition, which was used in recent analyses of forest governance in the Indian Himalaya (63) and Nepal (68). However, other indicators of success,

such as equity of benefit sharing or fulfillment of local needs, may be equally important (66). For example, some CFs in Nepal exhibited significant increase in forest cover but produced few benefits for the user groups, and the CF products were unfairly distributed among the members, especially to poor users who lacked access to forest products on private land (69).

The set of positive attributes prepared by Ostrom (65) (Table 1) is more detailed than other recent analyses of forestry user groups (63, 66, 67, 70). Ostrom's list includes attributes of user groups that are conducive to a community adopting or changing rules limiting access to their forests (65, p. 4). These attributes are relevant because CF user groups in many countries must initiate the process of forming a CF, even though the government subsequently plays a significant role in supporting the user group. Ostrom's list also includes several attributes of CFs—including that the forest should not be so degraded that it is useless to organize, or so underutilized that there is little advantage from organizing. Governments in many countries have been unwilling to hand over well-stocked forests for community management (2, 3). For example, forest policies in Nepal since 2000 have restricted the handover of well-stocked forests in the Terai/Churia regions while continuing to promote the handover of relatively low value forests in the mid-hills (48, 71). The Forest Department in India reportedly retained control of the most productive forest land and allocated fragmented and degraded patches for community management (71). In Bhutan, however, after initially only handing over degraded forests to communities, the government decided to give villagers a stronger incentive to participate by stipulating that CFs should be approximately 50% well stocked (72, 73). This provision was probably influenced by the abundance of forest resources in Bhutan, but appears to reflect a genuine willingness to give up control of some national forests in order to promote economic development at the village level (74).

Table 1 Summary of Ostrom's Attributes of Successful User Groups (65).

- The forest should not be so degraded that it is useless to organize, or so underutilized that there is little advantage from organizing.
- Reliable and valid information about the general condition of the resource should be available at reasonable costs. The availability of resource units should be relatively predictable.
- The resource should be sufficiently small, given the transportation and communication technology in use, so that users can develop accurate knowledge of external boundaries and internal microenvironments.
- Users should be dependent on the resource for a major portion of their livelihood or other variables of importance to them. Users should have a shared image of the resource and how their actions affect each other and the resource.
- Users should have a sufficiently low discount rate in relation to future benefits to be achieved from the resource. Users with higher economic and political assets should be similarly affected by a current pattern of use.
- Users should trust each other to keep promises and relate to one another with reciprocity.
- Users should be able to determine access and harvesting rules without external authorities countermanding them. Users should have learned at least minimal skills of organization through participation in other local associations or learning from neighboring groups.

Conclusions

Community forestry programs are expanding throughout the world. The experience to date has largely been positive: CFs in many countries have been able to provide a range of social and economic benefits, and many CF user groups have demonstrated that they are capable of effectively managing the forest resources in their CFs. However, there are still questions about the sustainability of harvesting and management systems in CFs, and the lack of political and economic equity in some CFs is troubling. It is crucial that additional research be conducted on these issues to provide guidance for the development of national community forestry policies and programs so that appropriate technical support is provided to CF user groups to maximize their ability to manage CFs in a sustainable and equitable manner.

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