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Common Property Forest Management

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Concepts, Definitions, and Terms

A 'common-property' regime is a regulated form of joint control and management of a resource by a group of users, with powers to define membership of the group, to exclude those who are not members, and to set rules governing use of the resource. It contrasts with unregulated 'open access' use of such resources when they are available to all and consequently not owned or managed by anyone, or with private or state control.

In the past a resource used in this manner has often been termed a 'common-property resource.' However, the use of the term 'common property' for both a resource that can be used in a managed or unmanaged fashion, and for a form of management regime that is limited to a specific group that holds rights in common, has proved to be confusing. A resource used in common is therefore now termed a 'common-pool resource.' Such a resource is usually characterized as one where exclusion of users from the resource is costly, one person's use subtracts from what is available to others, and overuse leads to degradation.

A common-pool forest resource may be the forest as a whole, or part of it. Or it may relate just to the product flows from that resource, or to individual product flows, such as timber, or fuelwood, or grazing. It is thus necessary to distinguish between rights to use a resource and the rights related to the resource itself. A common-property regime does not necessarily require ownership of the forest resource, just rights to control usage.

This is particularly important in understanding uses in forests, where much of the resource is owned by the state, but most usage is by individual, collective or industrial entities, frequently with multiple users exercising rights to different products or to use at different times of the year. There can therefore be several different common-property regimes governing different outputs of a particular forest, and involving different groups of users. Similarly, the institutional arrangements for producing and selling forest products (flow units) are quite likely to be different from those controlling and managing the forest itself (the stock). Common-property use of particular forest products can also be found on private property.

Most management of forest resources as common property involves extractive outputs such as wood, nonwood products, and forage. However, it can also involve nonextractive uses, such as flood control.

Common-Property Versus Alternative Forms of Forest Tenure

Historically, common-property regimes have evolved where the demand on a resource has become too great to tolerate open access use any longer, so that property rights in the resource have to be created, and other factors make it impossible or undesirable to allocate the resource to individuals, or to the state. A common-property regime can also emerge as a way of securing control over a territory or a resource, to exclude outsiders, or to regulate the individual use by members of the community. Collective management has historically been particularly prevalent where forests have provided critically important inputs into agriculture (e.g., providing replenishment of soil nutrients through green mulch or tree fallow), where livestock management depends on access to woodland or forest (as in arid Africa and Asia), or where forests provide important dietary inputs (e.g., in high forest regions without livestock).

As pressures on the resource increase over time, common-property regimes may be replaced by private property or state management, or revert to unregulated open access use, or, as is found in many forest situations, to some combination of rights and regimes. However, forest resources can continue to be managed as common property for long periods, where this continues to be the most appropriate form of management. For instance, it is still an active system of forest management in parts of the European Alps.

Historically, however, common-property forest management regimes have been widely reduced. Much

of the decline has come about because of economic, demographic and social change, e.g., increasing pressures to privatize a resource or product in order to benefit from new market opportunities, the option of purchasing rather than producing certain goods earlier sourced from a common-pool resource, and changes in rural labor availability and allocation. The share of forest resources controlled as common property has also been much reduced by expropriation by governments of forest and woodland as forest or nature reserves or some other form of state property, or as part of moves by colonial and postcolonial governments to increase their control over local activities.

Government policies and strategies that eroded common property have been widely influenced by arguments that it is inefficient, and unsustainable, by comparison with private property or state ownership. Such arguments stem from an assumption that, as user pressures build up, the cohesion and discipline necessary for effective collective management cannot be sustained and will break down, and that it will become increasingly difficult to exclude outsiders, resulting in unregulated, open access overuse of the resource. This thesis, given prominence through a very influential 1968 article by G. Hardin in *Science* entitled 'The tragedy of the commons,' contributed to pursuit of land distribution policies that favored individual private land holdings, and state control of forest resources.

Since the mid-1980s, evidence has accumulated to show that, while this thesis can and often does apply, it should not be held to be of general application. In appropriate situations users often prove to be able to create and sustain collective arrangements that avoid overuse. In addition, it has been demonstrated that private and state alternatives to common-property management can also fail to prevent overuse of forest resources.

Recently there have been major shifts in development thinking and policy that have begun to reverse some of the tendencies to centralize control. Structural adjustment policies in favor of devolution and decentralization, and greater local participation, have seen the emergence in forestry of a much greater focus on local forest management. Much of social or community forestry has been taking forms that are derived to some extent from concepts and practices of common-property management.

Conditions Favoring Common-Property Forest Management

A considerable amount of research attention has been directed towards identifying the conditions in

which common property is likely to be viable and stable. **Table 1** summarizes the main variables that have been identified as being critical to the sustainable functioning of common-property systems across

Table 1 Critical enabling conditions for sustainability on the commons

(1) Resource system characteristics
- Small size
- Well-defined boundaries
- Low levels of mobility
- Possibilities of storage of benefits from the resource
- Predictability

(2) Group characteristics
- Small size
- Clearly defined boundaries
- Past successful experiences – social capital
- Appropriate leadership – young, familiar with changing external environments, connected to local traditional elite
- Interdependence among group members
- Heterogeneity of endowments, homogeneity of identity and interests
- Low levels of poverty

(1 and 2) Relationship between resource system characteristics and group characteristics
- Overlap between user group residential location and resource location
- High levels of dependence by group members on resource system
- Fairness in allocation of benefits from common resources
- Low levels of user demand
- Gradual changes in levels of demand

(3) Institutional arrangements
- Rules are simple and easy to understand
- Locally devised access and management rules
- Ease in enforcement of rules
- Graduated sanctions
- Availability of low-cost adjudication
- Accountability of monitors and other officials to users

(1 and 3) Relationship between resource system and institutional arrangements
- Match restrictions on harvests to regeneration of resources

(4) External environment
- Technology
  - Low-cost exclusion technology
  - Time for adaptation to new technologies related to the commons
- Low levels of articulation with external markets
- Gradual change in articulation with external markets
- State:
  - Central governments should not undermine local authority
  - Supportive external sanctioning institutions
  - Appropriate levels of external aid to compensate local users for conservation activities
  - Nested levels of appropriation, provision, enforcement, governance

Adapted with permission from Agrawal A (2002) Common resources and institutional sustainability. In: Ostrom E *et al.* (eds) National Research Council, *The Drama of the Commons*, pp. 62–63. Washington, DC: National Academics Press.

a range of different common-pool resources. All four of the areas identified – characteristics of the resource, characteristics of the user group, institutional arrangements, and external factors – have application to common-pool forest resources.

Characteristics of the Resource

Physical characteristics   Collective management is more likely to succeed if the resource has definable boundaries and can be shown to be linked with the user community. For instance, proximity to the user community facilitates protection of the resource for the exclusive use of the controlling group, and monitoring of its use by its members.

A forest resource that needs to be managed in its entirety, in order to maintain the interactive environment necessary to maintain some of the desired outputs, is more likely to induce collective management than tree stocks that could be split up into individually managed units. This is also the case with some large resource systems, such as woodland in arid areas, where the location of productive zones can vary from year to year. Group management will also be favored where there are multiple uses and users, and coordination among them is necessary.

Productivity and capacity to meet user needs   The incentive for users to invest in collective management is likely to be greater if the resource is capable of meeting a substantial part of users' needs, and if these benefits can be obtained rapidly and regularly. An existing forest that is already producing is consequently more likely to be suited to local management than one that has to be planted up and will yield benefits only after several years.

The resource also needs to have the potential to yield benefits commensurate with the costs the group are likely to incur in bringing it under management. Failure of common-property forest management can often be linked to the shrinking size or degraded nature of the available local resources. Similarly, if only low-grade forest or low-value components of a forest are made available for local use, the incentive for users to manage them as common property is likely to be weak.

Ease of management   The ease with which the resource can be managed by the user group is also important. Most functioning local collective systems in practice involve easily managed products such as fodder and fuel (which are also products from which members of the user group are likely to be able to benefit in an equitable manner). Managing a wider range of forest products, or more intensive use, can introduce levels of complexity and skills that groups may find difficult to take on.

This reflects the high costs of obtaining information on which to establish more intensive management and use practices, and the risk that lack of knowledge or skills could lead to overuse of the resource on which they depend. Ease of enforcement of rules governing use by members can also be an important factor.

Characteristics of the Group of Users

A number of group characteristics may affect the capacity of a group of users to collaborate effectively in the control and management of a local forest resource.

Shared or conflicting interests   One is the presence of more than one set of users, each with different interests and objectives. While some among multiple demands on a forest may be complementary (e.g., for products obtained from different component species, or for using the forest at different times of the year), others may be more competitive or incompatible. For instance, the continued dependence of the poor on local common-pool forest resources for outputs to meet their subsistence needs frequently conflicts with the interest of the wealthier within the community in privatizing the resource, or some of its product flows, in order to take advantage of growing market demand for forest products. A consequence of such competing pressures is likely to be a need for more complex control and management measures. This increases the transaction costs associated with maintaining a common-property system, sometimes to the point where such management is no longer possible without external support.

Creation of a common-property system, by excluding those who are not members of the group from further use of the resource, can also lead to conflict between the group and outsiders who previously had access to it. In addition, there can be disputes within a group over collective choice processes, or over rules for resource management and enforcement of these rules on members.

Size and composition   It has been widely argued that some of these difficulties and constraints can best be minimized by organizing collective management around small homogeneous groups, with membership of each confined just to those with similar views about the use of the resource. There is considerable evidence that such small uniform groups do find it easier to establish and maintain collective control.

However, the thesis that smallness is invariably desirable is being increasingly challenged. Although the task of dividing responsibilities and benefits may favor small and cohesive user groups, the task of managing and exercising control over the resource may call for a larger body that encompasses all those with a claim on the resource. Larger bodies are likely to be able to generate more funds with which to hire watchers to protect the resource, or to buy in outside advice or assistance. Bigger groups are also likely to have more leverage in accessing public support services, and in other dealings with government departments.

Similarly, though homogeneity of interest, needs, etc., among users can have obvious benefits in terms of internal cohesion, the thesis that this is necessary in order to manage collectively is also being questioned. Although cultural differences, or differences in the nature of the interests of participants, can make collaboration difficult, differences in economic endowment need not necessarily be an impediment, for instance if rich and poor in communities have common use patterns, and consequently a shared interest in how local forest areas should be managed. Alternatively, component subgroups may have complementary interests, e.g., with poorer members able to draw on the subsistence goods they need, and wealthier members able to generate income from other parts of the resource.

Active involvement of the more powerful within the community can also provide it with effective leadership, and increase the chances that the common-property regime will work. Lack of trust in their leaders has proved to be one of the main reasons for failure of common-property systems.

Local Institutional Arrangements

The rules relating to control and management of common property, and the local institutions to develop, apply, and enforce these rules, lie at the heart of any common-property management system. It is only a self-governed form of forest management if it rests primarily on the decisions and actions of the user group. This in turn requires that it encompass a mechanism that enables members to communicate with each other about its functioning.

Freedom to set, modify, and enforce group rules Few common-property forest management regimes are governed entirely by participants. In most situations local and central government regulations also affect what can be done. Some measure of external regulation is usually also necessary in order to establish the rights of the group to control and use the resource, to protect it against unauthorized uses

by those who are not members of the group, and to enable it to access government support services.

However, overly tightly formulated government rules for the operation of common-property systems can create problems. The very process of imposing rules itself undermines a basic principle of self-governance – namely, that the local body needs to be able to create rules appropriate to its own situation, and to modify these rules as the need to do so arises. Rules that cannot be altered by a group can freeze a constantly evolving relationship between people and the resource they draw upon at a particular point in time, preventing its adaptation to further change.

If the ability to determine and implement its own rules becomes undermined to the point that the user group is no longer the principal source of decisions and enforcement, the system is likely to have become one that is more accurately categorized as a form of shared management with the state, or industry, or whatever other entity has also acquired rights or authority to participate in the control and use of the forest resource.

For rules to be effective they need to apportion benefits in proportion to the costs that participants incur through participation in the common-property regime, which can vary across a user group. Groups in the middle hills of Nepal, for instance, recognize that households living further away from the resource are less able to benefit from it and should therefore not be expected to bear as much of the burden of protecting and tending it as those living nearer to it. There need to be incentives to cooperate, and an effective system for monitoring to ensure adherence to the rules, with agreed sanctions to be imposed on offenders, and a mechanism for resolving conflicts among users. Rules need to be accepted as being fair and legitimate by all participants.

Functional and representative institutions A wide variety of different forms of local institution, both informal and formal, can take responsibility for a common-property forest management regime. Some comprise just the group of users themselves, acting as an independent body. These will usually need to be recognized by formal government bodies in order to get access to government resources, services, and authority. Many user group institutions are in practice affiliated to, or are a subbody of, a higher-echelon community or local government institution. However, issues arise when such parent bodies, with predominantly political and bureaucratic agendas, have priorities that conflict with the interests of the forest user group.

Difficulties can also arise for long-established local common-property institutions, which reflect social

values and practices from an earlier period when they came into existence, in accommodating to changes in the broader framework of local governance, for instance male-dominated forest management groups that may not adequately reflect current requirements for equitable participation by women.

External Environment

The capacity of common-property forest management regimes to function, and their continued relevance by comparison with alternative forms of tenure and management, can be affected by change in a number of external factors, for instance introduction of new technology that permits agricultural use of land previously left as commons. However, the two most important factors are usually increasing exposure to market forces, and the impact of actions by the state.

Articulation with external markets   As households become more integrated into the market economy, and seek to generate more income with which to purchase goods, the task of managing forest as common property becomes more complex. Wage employment becomes more rewarding than gathering activities. The potential to sell products of the forest is likely to increase pressures to privatize the resource, and to overharvest. If the interests of those within a user group able to exploit such market opportunities, and those needing continued access to it to meet their subsistence needs, diverge, the potential for dispute and conflict is increased. Exposure to market forces can therefore put pressures on existing mechanisms for exclusion and control, and increase the costs of maintaining a resource as common property. This can be a major factor in moving management from common property to shared control involving other categories of stakeholder as well.

It has consequently been argued that management of forests as common property is usually better suited to meeting subsistence demand rather than production for the market. Though there are many instances where this form of management has handled commercial production successfully, one factor that may need to be taken into account in assessing whether a resource is suited to management as common property can therefore be the extent to which its output is likely to attract commercial rather than local use.

Interactions with the state   The environment within which local common-property forest management systems are located is likely to be shaped by broader government actions in a number of ways. For the rights of a user community to control and

manage a local forest resource to be recognized outside that community, they need to be supported in a manner that records this transfer of rights from the state. Ideally, there need to be legislation and regulations that provide authority both to communities and government agencies to generate the necessary rules, regulations, and operational measures, and that give them authority to implement and enforce them.

Lack of enabling legislation does not necessarily mean that local self-governance of forest resources cannot happen. In its absence, forest departments can still arrive at extralegal working arrangements with communities that enable them to continue to manage the forest areas from which they draw supplies. However, without a legal base, community-based rights can be challenged in terms of national law, and local groups can encounter difficulty in using the law to assert their rights. Without secure legal backing, local people are also left in a weak position in negotiating change with government, and can be left exposed to risk by even the best-intentioned initiatives introduced by the government.

Such problems are often aggravated because the legal base is weak and confused. In most developing countries western tenure, and more recent systems designed to transfer control over land to the new political elites, coexist with community systems, undermining the latter systems but seldom providing a satisfactory alternative because they are not enforced. This causes confusion, because the legal status of land and forest resources becomes unclear, and people can be faced with different fora for settling a dispute under the different legal systems.

The other main way in which the state impacts on common-property forest management is through broader national policies and strategies, and in the way these are implemented by government agencies. Recent trends towards liberalization and privatization, and towards structural adjustment and downsizing of the presence of central governments, have had a number of profound impacts. Liberalization has tended to reinforce pressures to privatize land and other resources, to the detriment of the often informal common-property practices that provided the poor in many places with their fuelwood, grazing, and other forest products. Structural adjustment, on the other hand, has given impetus to policies to devolve and decentralize control over forest resources, thereby encouraging local participation in forest governance and management. This has been reinforced by the growing focus of development policies on poverty alleviation.

With community forestry having become a major component of forestry over the past quarter-century, forms of local management which contain elements of common-property management have become widespread, particularly in developing countries. However, this has often evolved in ways that entail quite close involvement of government forest departments in their organization and operation. Local forest management institutions frequently have to operate within a framework of quite restrictive regulations laid down by forest departments. Forest departments often also have a presence in local management structures, and retain rights over some of the income-generating components of the forest, such as commercial timber. In practice, though there is no clearly defined border between them, many of these systems have more of the character of forms of control that are jointly managed by local people and the state, than of common-property regimes governed exclusively or primarily by the group of users.

See also: **Landscape and Planning**: Perceptions of Nature by Indigenous Communities. **Social and Collaborative Forestry**: Canadian Model Forest Experience; Forest and Tree Tenure and Ownership; Joint and Collaborative Forest Management; Public Participation in Forest Decision Making; Social and Community Forestry.

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Social and Community Forestry

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Introduction

Traditionally, in tropical countries forest management strategies have been based on the premise that sustainable forest management is best secured by state custody over forests, with management being the responsibility of a professional forest service, and by focusing forest production measures predominantly on commercial timber production. In the mid-1970s it became recognized that this strategy was too top-down-oriented and that it focused predominantly on national interests rather than on the needs of local communities. Therefore it did not contribute much towards improving the welfare and well-being of large segments of the population living in or near forests. Consequently, a new strategy for forest management was proposed, in which explicit attention was given to the forest-related needs of rural communities and to community participation in the sustainable management of forest resources. This new strategy was termed social forestry or community forestry. This strategy has become widely accepted, and in the last decades of the twentieth century much experience has been gained about how to involve local communities actively in forest management. Although many local interpretations of the meaning of the terms social forestry and community forestry exist, at present often a conceptual differentiation between the terms is made. Social forestry relates to the planning and implementation by professional foresters and other development organizations of programs to stimulate the active involvement of local people in small-scale, diversified forest management activities as a means to improve the livelihood conditions of these people. Community forestry refers to the forest conservation and management activities that are carried out by people living within rural communities, who are not trained as professional foresters, and who carry out management activities on the basis of local norms and interests. In contrast to the traditional professional approach to forest management, community forestry is not based on standard models, but on adaptation to site-specific conditions in respect to both type and conditions of forests, local livelihood strategies, and community institutions. Two main community-based forest management systems exist: community forestry in the form of the management