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## Common Property Resources

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### Keywords

Common property resources; Efficiency; Market integration; Open access; Private property rights; Tragedy of the commons

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### JEL Classifications

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The concept of common property has become famous in economics since Garrett Hardin (1968) wrote his celebrated article on ‘The Tragedy of the Commons’. In this article, common property is taken to mean the absence of property rights in a resource, or what is equivalently known as a regime of ‘open access’. Under such a regime, where a right of inclusion is granted to anyone who wants to use the resource, Hardin argued, inefficiency inevitably arises in the form of over-exploitation of the resource accompanied by an over-application of the variable inputs. Open access leads to efficiency losses because ‘the *average product* of the variable input, not its *marginal*

*product*, is equated to the input’s rental rate when access is free and the number of exploiters is large’ (Cornes and Sandler 1983, p. 787). The root of the problem lies in the fact that the average product rule does not enable the users to internalize the external cost which their decisions impose on the users already operating in the resource domain. Of course, the efficiency losses are conceivable only in a world of resource scarcity, implying that the variable input is subject to decreasing returns. Such losses are considerable since they amount to the dissipation of the whole resource rent. Here is the crucial intuition behind the open access regime: when no property right is attached to a resource, the value of this resource is zero in spite of its scarcity.

Efficiency losses are to be measured not only in static but also in dynamic terms. Indeed, in an open access regime resource users are induced to compare average *instantaneous* returns with the input’s rental price even though they may well be aware that they thereby contribute to reducing the future stock of the resource. The problem is simply that they are forced to follow a myopic rule because there is no way in which they can reap the future benefits of restraint in the present. Thus, for example, by refraining today from catching juvenile fish or from cutting down saplings in the forest, a villager can receive no assurance that he or she will be able in the next period to catch mature fish or to fell fully grown trees.

The main criticism levelled by numerous social scientists against the concept of open access is that

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This chapter was originally published in *The New Palgrave Dictionary of Economics*, 2nd edition, 2008. Edited by Steven N. Durlauf and Lawrence E. Blume

the corresponding regime is rarely encountered on the ground. The typical regime, according to these critiques, is one under which a community possesses a collective ownership right over local natural resources. Under common property, therefore, a right of exclusion is assigned to a well-defined user group, and Hardin has created a lot of confusion by using the word ‘commons’ to refer to the alternative situation where no such right is granted to any agency. What is not always clear, however, is whether the ownership right involves only the ability to specify the rightful claimants to the resource, or whether it also involves the ability to define and enforce rules of use regarding that resource (for example, regulations about the harvesting season and production tools, allowed quotas of harvestable products of the resource, or taxes). Baland and Platteau (1996) have coined the term ‘unregulated common property’ to refer to the former situation, while the term ‘regulated common property’ is used for the latter.

Two polar situations can be considered on the basis of this analytically important distinction between two types of common property regimes. At one extreme, if common property is perfectly regulated, in the sense that the rules of use designed and enforced by the owner community allow a perfect internalization of the externalities, common property becomes equivalent to private property with a sole owner from an efficiency standpoint. This illustrates the general result that, absent transaction costs, institutions do not matter. At the other extreme, a strictly unregulated common property in the above sense implies that, as the number of users becomes quite large, over-exploitation of the resource becomes as important as under the open access regime: the rent attached to the resource is totally dissipated (see Platteau 2000, ch. 3).

Between these two extremes we find the situations most typically observed on the ground and described in the numerous field studies devoted to this topic (see Ostrom 1990; Baland and Platteau 1996, for a review of such studies). In such instances, rules of use exist alongside membership rules, yet they tend to be imperfectly designed and imperfectly enforced by the village community.

One key reason for these imperfections is the governance costs that unavoidably plague any collective decision-making process. Governance costs include all those costs incurred to reach a collective agreement and to organize a community of users. They are likely to be higher when the group is larger and when its membership is more heterogeneous (whether measured in terms of diversity of objectives or of wealth inequality). Moreover, governance costs are enhanced by the opportunistic tendencies of rights-holders not only to violate or circumvent collective rules but also to eschew efforts to create collective mechanisms of decision-making and enforcement. Costs arising from these proclivities are also dependent on the size of the user group: they are lower if the number of resource users is smaller and, at the limit, they are nil when there is a single user.

As a consequence of the aforementioned limitations, resources are less efficiently managed under a common property regime than they could be under a private ownership system. This is especially true if, owing to their scarcity, the resources carry high values which should be reflected in high rents. Population growth and market integration are thus two forces that tend to increase the monetary value of the efficiency losses arising from common property, that is, the forgone rents. This, at least, is the conclusion drawn by the so-called property rights school of Chicago economists (see, for example, Demsetz 1967; Barzel 1989). The advantages of private property appear all the more decisive as such a regime enables users to internalize externalities without incurring any governance costs. This is because it establishes a one-to-one relationship between individual actions and all their effects: ‘A primary function of property rights is that of guiding incentives to achieve a greater internalization of externalities ...’ (Demsetz 1967, p. 348).

Nevertheless, this ignores the costs of privatizing natural resources, which involve both direct costs and opportunity costs. Direct costs comprise transaction costs, such as the costs of negotiating, defining and enforcing private property rights. The usual argument is that such costs increase with the physical base of the resource.

Thus, the wider the resource base (or the less concentrated the resource) the higher are the costs of delimiting and defending the resource ‘territory’ (Dasgupta 1993, pp. 288–9). For many natural resources, the costs of dividing the resource domain appear prohibitive under the present state of technology. For example, the open sea – or, more exactly, the fish stock contained in it – presents insuperable difficulties for private appropriation. The enforcement of exclusive property rights to individual patches of the ocean would, indeed, be infinitely costly. This is especially evident when fish species are mobile and move within wide water spaces, since exclusive rights are too costly to establish and enforce whether over the resource or over the territory in which the resource moves.

The opportunity costs of privatization, for their part, correspond to the benefits that are lost when the common property regime is abandoned. Here, we can think of scale economies that may be present not only in the resource itself but also in complementary factors. The obvious advantage of coordinating the herding of animals so as to economize on shepherd labour in extensive grazing activities is probably the best illustration of the way scale economies in a complementary factor may prevent the division of a resource domain. Another important category of opportunity costs is the insurance benefits associated with common property. When returns to a resource are highly variable across time and space, the need to insure against such variability is yet another consideration that may militate against resource division. When a resource has a low predictability (that is, when the variance in its value per unit of time per unit area is high), users are generally reluctant to divide it into smaller portions because they would thereby lose the insurance benefits provided by keeping the resource whole.

For instance, herders (fishermen) may need to have access to a wide portfolio of pasture lands (fishing spots) in so far as, at any given time, wide spatial variations in yields result from climatic or other environmental factors. On the assumption that the probability distributions are not correlated too much across spatial groupings of land or water and that they are not overly correlated over time, a

system offering access to a large area within which right-holding users can freely move appears highly desirable from a risk-reducing perspective.

The conclusion of the above discussion is, therefore, that the balance of the advantages and disadvantages of various property regimes is a priori undetermined. Economic theory, however, does provide useful guidance about which circumstances are more favourable to the persistence of common property or, conversely, to its demise and replacement by private property. Furthermore, instead of being fixed once for all, the balance sheet is susceptible to evolution depending on the transformation of the parameters on which the benefits and costs of privatization depend. Thus, the direct costs of resource division may fall with technological progress. For example, the introduction of modern borehole drilling facilitates the privatization of common grazing areas (Peters 1994). It is therefore not only the factors which enhance resource value but also those which reduce the direct costs of partitioning that may favour the private appropriation of natural resources.

## See Also

- ▶ [Access to Land and Development](#)
- ▶ [Agriculture and Economic Development](#)
- ▶ [Land Markets](#)
- ▶ [Population and Agricultural Growth](#)
- ▶ [Property Law, Economics and](#)
- ▶ [Tragedy of the Commons](#)

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