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Tragedy of the commons

The “tragedy of the commons,” first articulated by biologist Garrett Hardin in 1968, refers to a situation in which a group of self-interested individuals exploits a commonly owned resource to a level beyond that which is socially optimal. The logic of the tragedy of the commons is potentially applicable to a range of **common pool resources**, including fisheries, pasture, unpolluted waterways, and communal forests. Such resources are rivalrous (one individual’s use of the resources diminishes the benefits available to another user) but non-excludable (access to the resource by specific individuals cannot be limited).

Hardin uses the example of a commonly-owned pasture in which individuals decide how many of their own cattle to graze on the pasture. Individuals capture the benefits from cattle that they graze, but the costs of this grazing—degradation of the pasture—are shared among all users. When deciding how many cattle to graze, Hardin assumes that individuals account only for their private benefits and costs. (The difference between the private and social costs of the individual’s action is often referred to as an external cost.) Because external costs are not accounted for by individuals, at the individual level, the

benefits of adding an additional cow to the pasture may exceed the individual's cost, although the social benefits of the additional cow will be below its social cost. The result is that too many cattle are grazed, resulting in degradation of the pasture beyond a socially optimal level. Hardin's theoretical arguments were formalized by economist H. Scott Gordon to demonstrate socially sub-optimal exploitation of an open access fishery by profit-maximizing harvesters. Both authors' models are based on the assumption that individuals act independently to maximize private benefits. Under this theoretical model, privatization of access rights to the common-pool resource can create incentives for socially optimal levels of resource exploitation.

Political scientist Elinor Ostrom has demonstrated that for many common-pool resources, individuals may coordinate to develop a set of institutional rules that lead to lower levels of resource degradation. Case study and experimental research have identified conditions under which successful rules are more likely to develop. These include the ability to establish and enforce clear rules that restrict conditions of resource use, development of rules that allocate access in proportion to access costs, participation in governance by those affected by the rules, and the ability to monitor resource use and impose graduated sanctions for rule violations. If these conditions hold, common property regimes may be as successful as private-property regimes in maintaining a socially optimal level of the common-pool resource.

See also: Institutions; Land rights; Private property; Property;

Further Readings

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