In 1985, the National Academy of Sciences sponsored a conference in Annapolis, Maryland, to discuss common property resource management. This conference was a watershed in the development of the theoretical underpinning of institutional design for successful common pool resource (CPR) management. Since then, an international network of over 2,000 researchers has developed, and the International Association for the Study of Common Property (IASCP), formed in 1989, has held two successful international conferences. Dominating the intellectual evolution of the field has been the work of Elinor Ostrom, co-director of the Workshop in Political Theory and Policy Analysis at Indiana University. Her book, *Governing the Commons*, presents a lucid exposition of the current state of institutional analysis of common property problems. Part of the Cambridge series on Political Economy of Institutions and Decisions, the book addresses how common pool resources may be managed successfully without falling prey to the "tragedy of the commons."

Common pool resources are characterized by subtractability (i.e., withdrawal by one user reduces the amount of the resource left for other users) and joint use by a group of appropriators. Thus, a common village grazing field has forage for a limited number of beasts, and all the villagers are entitled to pasture their animals on the field. Community rules of access and management are required to sustain the field from season to season. Problems in managing CPRs arise when the rational individual determines that he will still have access to the resource even if he does not fully contribute to its maintenance (the "free rider" problem). An extensive literature discusses the effect of free riders, concluding that common pool resources will inevitably fall into ruin. One of two solutions is usually offered to avoid this problem: centralized governmental regulation or privatization.

Noting the numerous occasions in which common pool resources are managed successfully with neither centralized governmental control nor privatization, Ostrom argues for a third approach to resolving the problem of the commons: the design of durable cooperative institutions that are organized and governed by the resource users. In *Governing the Commons* she examines small-scale common-pool resources. Resource user groups examined range in size from 50-15,000 people who rely substantially on the common pool resource for their economic well-being. She has further
limited the sample by excluding non-renewable resources, resources that are abundant (rather than scarce), and situations which produce substantial externalities.

These selection criteria have been chosen for several reasons. First, the relatively small size of the user groups enables researchers to investigate the existing institutions thoroughly. Second, resource scarcity means the users will have strong incentives to manage their resources in a sustainable fashion. And finally, economic dependence guarantees that any failures of the resource appropriators cannot be attributed to economic indifference.

Two sets of cases of successful CPR management are examined in detail: communal tenure in high mountain meadows and forests in Switzerland and Japan, and irrigation systems in Spain and the Philippines. From these cases, Ostrom identifies eight similar design principles.

The first principle is demarcation of clearly defined boundaries to identify the members of the user pool as well as the physical boundaries of the CPR. The second, congruence between appropriation and provision rules and local conditions, requires appropriation rules (regarding the time, place, acceptable technology, and quantity of CPR allocated) to be specific to the characteristics of the actual resource; similarly, the rules governing the contribution required of each appropriator must mirror local conditions. Third, collective-choice arrangements allow participation by all affected individuals in deciding on the appropriation and provision rules.

Fourth, either the appropriators themselves or persons accountable to the appropriators are responsible for monitoring compliance with collective decisions. Fifth, sanctions should be graduated to reflect the severity, frequency, and context of the violation. Sixth, low-cost and readily available conflict-resolution mechanisms must exist to mediate conflicts among appropriators and between appropriators and officials. Seventh, users must have recognition of their own rights to organize institutions.

Finally, nested enterprises, i.e., sets of rules established within a hierarchy of appropriator institutions, must be established for common-pool resources that are within larger resource systems and political jurisdictions.

To explore how such principles may have developed, Ostrom uses a contemporary case, the development of negotiated settlements of water rights in three southern California water basins. She concludes that institutional change is incremental and sequential, enabling appropriators to realize the benefits of change before moving on to new institutional arrangements.

In her final set of case analyses, Ostrom examines unsuccessful common-pool management systems in Turkey, California, Sri Lanka, and
Nova Scotia. The CPR institutions in these cases do not evidence the design principles Ostrom isolated from the successful CPR regimes.

The final chapter presents a “framework for analysis of self-organizing and self-governing CPRs.” Ostrom carefully distinguishes the notion of framework from that of a model.

Models are applicable to specific situations and their variables rest on assumptions peculiar to the modeled situation. Frameworks, in contrast, relate models to each other and provide the basis for generating more specific hypotheses and subsequent theories. Ostrom’s framework identifies the complex system of variables, rules, and external constraints that affect the design of CPR management regimes.

*Governing the Commons* is a major theoretical contribution to the study of collective action and institutional design. It describes in clear language the problems arising from CPR management and presents an uncompromising critique of existing approaches. Based on empirical evidence gathered from a variety of sources, Ostrom’s analytical framework offers opportunity for extensive theoretical development. It is an inclusive framework which is not limited to a few disciplines but instead solicits contributions from the entire range of social sciences. Clearly written, the book is essential for understanding common-pool resource management institutions.

Susan J. Buck
Department of Political Science
University of North Carolina at Greensboro