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## CHANGING NATURAL RESOURCE PROPERTY RIGHTS: AN OVERVIEW

The decision to hold a symposium on property rights and natural resources was based on the opinion by several members of the North Central Research Strategy Committee\* that property rights deserve a more important place in the social science literature dealing with natural resources. Property rights, after all, determine who can buy and sell in the markets and who are the actors in the play which plots the allocation of natural resources and the distribution of gains and losses. Minor changes in the property rights system deserve analysis, as do proposals for new approaches which would result in major changes in the system.

Property rights are often viewed as a purely legal matter. This is true in the sense that lawyers are the engineers of the law on property rights. But the resulting system is the concern of all social scientists, just as newly engineered technological advances ultimately affect scientists in a variety of disciplines. In fact, both property rights and technology are too important to be made the sole concern of the engineers.

The lack of input by all social scientists into property rights decisions is not caused by exclusion by the lawyer. Social scientists, particularly economists, have devoted too much time to the suggestions of solutions to problems based on the existing property rights system. Even though economists have allowed for adjustment due to shifts in technology, they have not often estimated the productivity of institutional change, except in historical perspective, analyzing major shifts in social systems. The system of property rights should be removed from the constraint set, and added to the list of parameters under analysis.

Property rights represent an institution, and changes therein involve institutional changes. How are these changes different from changes in the law? The answer lies in the definition of a social

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institution. Since the dictionary definition is relatively sterile, we shall begin with an original definition of a social institution: an established method of doing socially meaningful things that has been recognized as the basis for social behavior by a majority of the society. There are two important characteristics of social institutions: (1) they reflect the accepted method of doing things, *i.e.*, people are generally aware of the procedures for selling land, hiring employees, etc., and (2) they have a certain constancy that gives them a longer life than even the technological practices they govern. Thus, people are aware of and expect things to be done in certain ways because of institutions. They provide a basis and procedure for accomplishing socially meaningful things such as selling goods and services, providing for a money supply, defining criminal activity and distributing incomes. Changes in laws are merely one of many means of modifying social institutions, albeit the most rapid and direct.

In the case of natural resources, the property rights institution governs how property is created and defined, determines the rates of use, and establishes the procedure for the transfer of ownership. This institutional framework serves as the ultimate criterion for the distribution of wealth in natural resources and for the allocation of natural resources in various alternative employments.

While the institution of property rights in natural resources has economic implications, it is shaped by and has major influences upon other social needs not directly measurable by the institutionally established economic parameters. Therefore, it must be sufficiently general to adapt to a multitude of detailed changes in social, cultural, political and technological needs without breaking down. At the same time it must contain sufficient specificity to support the practical day to day functioning of a society.

When an institution begins to break down, the phenomenon of institutional failure has occurred and institutional change is needed. The first problem is to determine when an institution has failed to perform in accordance with the needs and desires of society. Then corrective measures can be determined.

A well documented example of institutional failure from economic literature is termed market failure. This refers to the inability of markets to allocate resources in a manner that satisfactorily accounts for all of the "significant" goods and bads (negative goods). The result is a less than desirable state of economic efficiency. The attempts to deal with market failure have been essentially economic and have been oversimplified and piecemeal, since more economic aspects are involved than are effectively considered. In addition, markets are only a subset of the overall institution of property, and,

while economic utility functions subsume many facets of human behavior, they are at best only a surrogate for the psychological, sociological and political needs of people and may in fact only be a response to existing but less than adequate institutions. Therefore, the approach to treatment of perceived cases of market failure such as environmental degradation requires an examination of the set of institutions that have to do with natural resources in all of the principal dimensions that describe institutions.

The papers in this symposium reinforce the previous conclusion. Those dealing with resource problems (the first six) provide examples of perceived failure on the part of natural resources property rights institutions to provide for the needs of society. In the case of coal there are conflicts between surface and mineral rights owners (*see* Leistriz). Where water is concerned there is the problem of providing for intertemporal and interspatial allocations as well as allocating between uses at a point in time (*see* Ditwiler). Land use results in a number of conflicts indicative of institutional inadequacy in the form of use conflicts concerning the definition of the public interest in land as opposed to protection of the owners' rights (*see* Bosselman). Oceans and ocean fisheries pose problems of establishing institutions of property where none exist and the changing of others where both are complicated by the interfacing of national and international politics (*see* Christy). Finally, or perhaps centrally, is the commonality of certain resources and the conflicts which result from the absence of an adequate institutional framework to deal with the "commons" or common property (*see* Ciriacy-Wantrup and Bishop).

The final three papers present the approaches of the various social science disciplines to natural resources property rights. These papers suggest the overlapping of the social sciences in explaining the need for the property rights institutions and in the diagnosis and treatment of institutional failure. The economists' approach is shown to be fraught with difficulties, especially in attempting to come to grips with the specification of a social welfare function. Attempts to overcome this problem have not been fruitful without assuming the problem away (*see* Randall).

From the lawyer's view, Carmichael concludes that the fee simple absolute can be virtually anything, from a bulwark that protects the individual from the state to a highly modifiable set of rights that can be substantially diminished for the collective good. Ostrom complements the work of Carmichael by concluding that while all agree some form of public organization is needed to avoid the overuse of common resources, there is disagreement about whether hierarchical organization is the best way to approach this problem or whether the

more contemporary public goods and fiscal equivalence approaches are more advantageous.

This conference was held because more than a few social science researchers in the natural resources and agricultural areas believe something is amiss in the institutions that guide human activity. Property rights is one of the most basic of these institutions and to date most research efforts have assumed these to be a sacred cow. The papers are not radical and not altogether unifying because a grand plan for institutional reform is not laid out. But they provide insight, for thoughtful people were brought together to bring their own unique experience to bear on a common issue.

W. D. SEITZ, J. C. HEADLEY and THE EDITORS