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OBSERVATIONS ON:

COMMON PROPERTY RESOURCE MANAGEMENT

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COMMON PROPERTY RESOURCE MANAGEMENT:
IMPLICATIONS FOR ECONOMISTS

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The conference from which the book Common Property Resource Management was derived brought together social and biological scientists with a wealth of knowledge about a wide variety of resource situations. The participants represented a range of theoretical and empirical experiences that are well reflected in the volume. An open-minded economist, upon perusing the book, will be struck by several observations.

The behavioral assumption that drives much of contemporary economic theory concerns the autonomous utility maximizer who acts in his/her own self interest. This behavior finds its empirical manifestation in the isolation problem modeled as the prisoners' dilemma, and in alleged ubiquitous free-riding. The "tragedy of the commons" allegory, being congenial to economic theory, finds wide allegiance among economists taught to believe that the only solution to resource degradation, poverty, and overcapitalization of resource-extractive industries is private property rights vested in the individual decision maker. The idea of collective action to formulate the institutional arrangements that will both constrain and liberate individual maximizing behavior is not well understood, nor is it regarded as an entirely legitimate activity. Rather collective action is usually regarded as an undesirable alternative to atomistic choice, and one that invariably is driven by the desire to engage in "rent-seeking" behavior. This two-step process of agreeing on institutional arrangements, and then making economic choices from within that structure of institutional arrangements, is not often analysed by economists.

The authors of the various chapters of the book provide repeated examples of instances in which collective action has developed a structure of institutional arrangements that guide subsequent economizing behavior by members of the group. Free riding does not dominate among resource users, nor is it much present. The coordination (or assurance) problem describes the common property regime that forms the institutional arrangement by which natural resources are managed. In the absence of such institutional arrangements the term "common property" is a contradiction in terms. Property, being a socially recognized entitlement structure that defines both rights and duties, does not exist in the absence of: (1) a clear definition of group membership; (2) a structure of institutions defining the accepted use pattern of the resource and the obligations of the users of the resource; and (3) a set of sanctions and incentives to insure that the use regimen is adhered to. Lacking these conditions one does not have common property but an open access resource.

Of course natural resources are often overused in the settings of joint use (either open access or common property). Just as resources under control of individual (private) owners are overused (agricultural soil erosion being a contemporary example). The contributions to the volume look for reasons for that overuse, and for instances of collective use that is not degrading of the resource.

In some instances overuse arises because of national laws and regulations that have stripped decision-making authority from the local level. Often overuse arises because of population growth of the indigenous group and the inability of the group to innovate new institutional arrangements. Or, neighboring developments may have preempted areas into which population growth in former times might have settled; in the absence of alternative locations the population growth is forced into the same—or an even smaller—area. As more and more land is brought under irrigation and other forms of commercial agriculture, the amount of land remaining for an increasing share of the population shrinks. And, there are other reasons why resource degradation occurs.

But the economist will be interested, I believe, in the instances in which sanctions and incentives have been modified over time to deal with new instances of scarcity. Economists will also be interested in the large numbers of individuals in the developing countries who must obtain a significant fraction of their daily sustenance from lands that are classified as "common property." Since, in many the countries the very poorest own no land, the reliance of the poorest segments of these countries on such lands will be seen to be overwhelming. But these common lands are not property considered common property resources since there is no structure of reciprocal rights and duties regarding use rates. There is only open access. This difference has not only been confused in the economics literature, but it is absolutely central to a correct analytical understanding of the current use regimes in the developing countries, and to any process of policy formulation for dealing with resource degradation on what I prefer to call the public domain lands.

I resist the term common property resources because it seems to suggest that there are resources that are, inevitably, managed as common property. Rather there are resources that will, at one time and place, be managed as private property, and at another time and place be managed as common property. The public domain comprises that vast fraction of the area of many developing countries that is not under private ownership, nor is it part of recognized state (national) property. Some of the public domain is managed as common property, and some of it is not managed at all but is, instead, open access. The economist will do well to apprehend this difference and to formulate development programs with that in mind.

There is increasing analytical interest in economics in the household as the unit of analysis; household production studies are becoming prevalent. This trend must not be allowed to distract attention from the fact that for many natural resource decisions the household is decidedly not the relevant unit of decision making and cannot therefore comprise the relevant unit of economic analysis. The household is subsumed, in certain locations and at certain seasons, to the imperatives of the group. Economic analysis must reflect this empirical reality.

Development programs that seek to "privatize" natural resource use on the basis of evidence of "inevitable degradation" from collective use will find only mixed support from the material in the volume. Open access resources may or may not be overused, depending upon a number of factors. Common property resources may or may not be overused depending upon a number of factors. Private property resources may or may not be overused, depending upon a number of factors. When collectively used resources are overused it is both facile and customary to blame such overuse on the absence of private property rights. When private property resources are overused it is both facile and customary to blame such overuse on a faulty telescopic faculty of the owner, or a problem of incentives. This asymmetry of cause for the same outcome ought to command a bit more of our analytical attention. Why is the property regime to blame in one setting but not the other? Is it that economists want very badly to believe that private property is best (or "efficient") and that any other property regime is wrong (or "inefficient")? What matters for resource use and sustainability is not mere ownership (nominal structure) but the constellation of institutional arrangements (real structure) that provide sanctions and incentives for certain behaviors. Successful development assistance efforts in the future will understand this difference between nominal and real structure, and use it as the basis for program formulation and evaluation.

A POLITICAL SCIENTIST'S VIEW OF THE SIGNIFICANCE
OF THE NAS VOLUME

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The dominant theory used to explain behavior of the users of a common-pool resource derives from a sweeping extension of the work of Garrett Bardin and Mancur Olson. Many scholars conclude that when multiple users have access to the same common-pool resource, competitive pressure will result leading to overproduction in either an economic (rent dissipation) or biological (species extinction) sense. The assumptions which underlie this conclusion are:

- (1) access to the resource is open to all,
- (2) a large number of individuals use the resource,
- (3) the quantity of resource units withdrawn exceeds the "safe yield" of the resource,
- (4) users do not communicate with one another, and
- (5) users act independently without following commonly agreed upon rules or norms.

The evidence presented in the NAS proceedings volume does not negate the conclusions of scholars using the dominant theory about real-world situations that actually meet these assumptions. The MAS volume does not affect the warrantability of the expectation that when large numbers of individuals have free access to a valuable resource, do not communicate with one another, and act independently based only on their own expected economic return, that a common-pool resource will not be managed efficiently. Overuse is highly probable.

The evidence presented in the NAS proceedings volume does negate the presumption made by many policy analysts that **most common-pool resource systems meet the assumptions listed above**. It is this presumption that leads to policy recommendations that central governments, particularly in the Third World, should own and control all natural resources. Many of the cases illustrate situations in which individuals using the same resource have engaged in extensive discourse with one another and have developed their own, rules and norms for closing access to the resource and for specifying the relative rights and duties of the users of the resource. When the users of the resource have the autonomy to make their own rules and are not confronted with rapid and sizable, exogenous changes in relative prices or population movements, it appears that it is possible for the users themselves to regulate their own common-pool resource systems. Some of the self-organized, common-property systems that are described in the volume have survived for long periods of time and have

enabled users successfully to manage complex and fragile resource systems without being forced to do so by central authorities,

Finding successful cases of self-organization will be surprising to many policy analysts. Combined with the evidence from many studies that resource projects organized and managed by central governments tend to be grossly inefficient and unable to prevent overuse (or, the converse, lack of maintenance), these findings are extremely important.

What this means for scholars and policy analysts is more work on a theory of collective action related to resource management. Our currently accepted theory does not enable analysts to predict and understand the conditions that are conducive to efficient and effective self-organization and the conditions that are inhibitory. On the basis of our work at Annapolis, we began to identify some of the variables which appear to enhance the probabilities that the users of a resource will organize themselves to regulate access and use of the resource. "These included:

Variables Related to the Resource:

1. **Size of the Resource:** The resource is sufficiently small, given the transportation technology available to the users, that users can develop accurate knowledge about the yield and conditions of the resource.
2. **Clear-cut boundaries:** The boundaries of the resource are sufficiently distinct that users can know who is or is not using the same resource.
3. **Indicators of resource conditions:** Reliable indicators of the conditions of the resource are obtained as a result of regular use (or provided by a technical service).

Variables related to the relationship between use and supply:

1. **Scarcity:** The amount of resource units extracted from the resource are sufficiently high that users are aware that their use-patterns are interdependent.
2. **Asset structure:** The claims that some members of a user group can make are sufficiently large that they are motivated to pay a major share of the organizational costs of establishing and maintaining an organization.

Variables related to the users:

1. **Ownership status:** The rights that users have to access, use, and exclusion of others are sustainable and certain.
2. **Size of group:** The group is sufficiently small that the costs of communication and decision making are relatively low.
3. **Residence:** The users permanently reside near or "in" the resource.

4. **Degree of homogeneity:** *The users are not strongly divided by natural boundaries; different technologies of production; different perceptions and experiences of risk; or cultural antagonisms.*

Variables related to organizational arrangements:

1. **Degree of centralization:** Users are not prevented from exercising local initiative by a centralized government.
2. **Existing local organizations:** Users have prior experience with either a general or special purpose organizational structure used to solve similar problems.
3. **Nested arrangements:** Overlapping institutional arrangements exist which supplement the efforts which can be sustained by the users (e.g., an effective court system to sustain property rights, specialist agencies to provide technical assistance).

These variables were identified by scholars at the Annapolis meeting based on their personal knowledge of many field settings and their diverse theoretical backgrounds. Many of the participants who produced the NAS volume have continued to work on this problem using various strategies including further theoretical development, further synthesis of empirical findings, experimental studies of common problems, and new field research.