

# Scarcity, Embeddedness, and Distribution in Ecological Policy

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Whether recognized or not, distribution is at the core of ecological policy. Policy creates winners and losers—human, animal and plant—regardless of whether resource allocation is done by markets, by communities, or by central management authorities. Distributional considerations underlie the central questions facing ecological policy makers: What are our objectives? For whose benefit? At whose cost? Over what time frame?

These are difficult questions even within standard single-species management, and the evolution of ecological policy toward ecosystems is making them more difficult still. But if left unaddressed, distributional issues can hinder effective policy implementation. Policy implementation is particularly confounded by two characteristics of resource systems: scarcity and embeddedness.

*Scarcity:* Scarcity is the impetus for discussions of ecosystem management. We shift our focus to ecosystems when it becomes apparent that single-species management erodes system-level function to the point that the demand for ecosystem goods and services cannot be met. But scarcity is at the same time a deterrent to expanding management's scope. Scarcity increases the difficulty of ecosystem management because it erodes management legitimacy and enhances rent-seeking.

Effective resource management depends on legitimacy—on the acceptance of rules and procedures by participants. Ecosystem management is typically proposed when exploitation levels must be adjusted downward. The implementation of these adjustments has distributional consequences that cause users to challenge the legitimacy of management. Expectations of resource users are slow to adjust to resource scarcity, giving rise to questions about the reliability of the information base. Allocations that create winners and losers lead to suspicions about fairness of the management process, and changes in established patterns of use lead people to question the rationale for social objectives. When people doubt the legitimacy of management because they cannot accept its distributional outcomes, their incentives are to undermine rather than promote its evolution to a new form.

Scarcity compounds the erosion of legitimacy by creating greater opportunity for rent-seeking. Rent-seeking is the attempt to gain advantage through claims on surpluses, and is characteristic of resource settings. Resource users seek rents in the form of greater incomes, environmental groups seek rents in the form of better outcomes for client species, and resource managers seek rents in the form of strengthened oversight

authority. Scarcity heightens the incentive for rent-seeking, encouraging the avoidance of “equal pain” solutions in favor of “win-lose” solutions. Scarcity-driven competition also intensifies the required level of participation in the policy arena, and those better able to absorb the costs of participation are in a better competitive position to advance their position.

*Embeddedness:* People are influenced by the larger social and economic spheres within which they work and live. A recognition of this embeddedness underlies many of the current recommendations for community-based resource management, where communities are seen as the antidote to resource individualism. In some contexts, communities do enhance policy objectives through social sanctions (e.g., Hanna and Jentoft 1996), but there is a danger of expecting too much from embeddedness in solving the problems of distribution.

People may be embedded in communities whose interests and decisions are in conflict with long-term ecological policy. Just as individual decision-makers do, communities make tradeoffs within their resource portfolios in response to changing markets, changing cashflow needs, and changing views of the future. There is no reason to assume that the decisions of diverse communities will be uniform, that they will be sustainable, or that they will sum to ecological policy consistent with the broader public interest.

The idea behind community-based management is that living within an ecoregion embeds people within that ecological sphere. But while ecological resources are embedded in geographic space, most people, at least in developed economies, are not. People are embedded in social and economic systems that extend far beyond ecoregional boundaries. People are members of families and communities, but also members of ethnic groups, professions, religions, and national organizations. People sell and buy in global markets, are influenced by global media, and have complex roles and values that inform and constrain their actions. Embeddedness poses potential threats to ecosystem management precisely when it is so complex and untied to geographic place. As embeddedness is dissipated over more spheres, it becomes less predictable. Which sphere will dominate? Which scale?

A final question about embeddedness has to do with its creation. Once embeddedness is destroyed, or dissipated over many connections, can it be re-established by establishing local control over resources? It is not at all clear that establishing local control is enough to create integrated local decisionmaking when people belong to multiple communities.

Again, the dominating influences are unpredictable, and their unpredictability introduces uncertainty about the distributional effects of ecological policy.

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### Reference

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