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Conservation and livelihoods: identifying trade-offs and win–wins

Many of us believe that there are parts of the world that need to be fully protected, regardless of whether humans actively benefit from them. Maybe it is futile to think we can “preserve” parts of the world or particular species, given our global human footprint. Nonetheless, places like the High Arctic and the heart of Borneo, and species like the northern right whale and the cheetah are, simply put...awesome. They inspire us. They fill us with hope. They kindle our sense of wonder.

Nevertheless, I think we often kid ourselves into believing that we want to protect these ecosystems and species because of their own intrinsic value. The truth is more likely that we want to protect them for selfish reasons. Whether or not we will ever experience the smell and dampness of an Amazonian rainforest, stare down a snow leopard in the eastern Himalayas, or become parched in the ghostly Namib Desert, we want these things to persist. We need them to be there for ourselves and for our children.

The utilitarian concept of ecosystem services often seems to be at odds with this emotional rationale for conservation. An ecosystem services approach is based on how conserving, managing, and protecting ecosystems and species affect our own livelihoods and well-being. However, the rapid growth of both the concept and study of ecosystem services means that in some cases the platitudes regarding their importance are ahead of the supporting evidence. There are those who believe that the measurement of an ecosystem service rationalizes the full conservation of the system that provides it. Some arguments about the level of non-timber forest product (NTFP) use, the presence of wild pollinators, or the magnitude of carbon sequestration presume that their mere *existence* implies that their *value* trumps all other alternative uses of land- and seascapes, without rigorously comparing such values against alternative uses or livelihood strategies. In many cases, we need to evaluate the personal and social costs and benefits of decisions regarding our natural resources more thoroughly. Of course, there are places where we do see “win–wins”, where protecting or restoring natural systems, keystone species, or some ecological functions will in some cases directly benefit human livelihoods and conservation goals. Recent studies on terrestrial and marine protected areas in Thailand, Costa Rica, and Mexico indicate the potential for joint benefits, for conservation and for local livelihoods (although efficiency trade-offs still exist).

But there is also a tough pill to be swallowed. A careful and robust analysis of the costs and benefits of conservation may show (in the short term, at least) that there are forests we have to log, wetlands that must be drained, and grasslands that need to be converted to cropland. In other words, there are places where the immediate needs of people will prevail over our desire to conserve ecosystems as they are. Carbon markets and ecotourism will not feed the billion people worldwide who do not currently enjoy food security. Conserving woodlands for NTFPs will not always raise the standard of living for families, so that they can send their kids to school, eat more protein, or drink cleaner water.

The good news, I believe, is that there are plenty of opportunities for science to help in both the trade-off and win–win areas, such that we can make the most informed, efficient, and equitable decisions in the places where conservation meets development. We know that the science needed to help make such decisions spreads across disciplines and requires many methodologically different approaches – from biodiversity field surveys and household interviews to land-use-change modeling and program evaluation. Where possible, there are two key processes that need to be more systematically built into ecosystem service science. First, we need to more robustly evaluate policies and interventions that affect the delivery of ecosystem services and compare these against alternative interventions. For example, we might ask what are the relevant costs and benefits of community forest management compared to a regime of open access for subsistence livelihoods. Second, we need to use the burgeoning field of scenario development to better understand the flow of costs and benefits (across time and space) of interventions, policies, and potential alternative futures.

Finally, we must get better at recognizing places where we can minimize trade-offs and optimize win–wins. We know that some logged forests recover well, some agricultural techniques are less damaging to biodiversity than others, and many highly managed landscapes deliver a suite of services that people depend on. In a world where some 2.4 billion people rely on local forests and fisheries for fuel and protein, we need to make sure arguments for conservation – whether emotional or economic ones – fully account for the near-term needs of local people.



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