

Short note on policies for the conservation of biodiversity, January 2005.

The current policy approach on biodiversity conservation: Efforts to preserve biodiversity have been moving on four fronts: direct regulation with a threat of sanctions, establishment of sanctuaries, conservation education and provision of conservation incentives. The provision of incentives may be a more effective instrument for conservation than the other three because it treats the disease and not its symptoms.

An effective effort to preserve species has to explicitly address causes or mechanisms that threaten them; an effort that ignores principal forces like the market will not be effective. Education may work in the long term, or under very fortunate circumstances, but its effects always fade in times of profit opportunities, or economic hardship. Sanctuaries are helpful, but their effect is limited and narrow by definition. Regulation can occasionally work, but illegal harvesting still occurs, since the gain from harvesting a species can very often be higher than a loss caused by a sanction. Moreover, the costs of enforcement are usually high and the possibility of being caught is often small.

The economic paradox of the loss of biodiversity: Today, it is generally recognized that a reduction in biodiversity will have an impact in human welfare. A number of attempts have demonstrated that the avoidance of biodiversity loss will provide significant benefits to humans. It can be argued that the economic justification for conserving biodiversity does exist and the preservation of species can be justified in economic terms. Biodiversity is simply a very valuable resource to waste.

It would seem that a species with a commercial value would be the last one to become extinct. A species with commercial value should be expected to be well managed and preserved in order to preserve its value. It would be viewed as a resource similar to any other. Species that are of no value to humans should be expected to become extinct due to lack of attention to them. What is happening though, is very often the exact opposite. Populations of species with commercial value are being depleted and the benefits associated with them are lost.

So why do people deplete this resource and deprive themselves from its benefits? To answer this, we should first mention that overharvesting and habitat alteration¹ are the two anthropogenic factors that put pressure on species and lead them to extinction.

The reasons for the loss of biodiversity: Overharvesting is the first reason that leads species to extinction. It has been argued that the fundamental constraint to the preservation of biodiversity is that some people earn immediate benefits from its use, without paying the full social costs of its depletion. The social costs of resource use are the costs that do not enter the user's production function, and therefore do not influence his decision concerning the rate of use of the resource. These social costs associated with the depletion of biodiversity are also the benefits that society would be able to capture if biodiversity were present. Since these benefits are real, society would be willing to pay the owner of the resource an amount equal to the benefits which society

¹Habitat alteration here takes a broad meaning to include terms such as pollution, climate change, or introduction of new species, next to its more direct meaning of land-use changes such as deforestations or wetland conversions.

could derive from biodiversity. The owner would then preserve the resource and reap its benefits.

But here is where the problem usually emerges. In a big number of cases the user of the resource is not the owner of the resource as well. Society would be willing to pay the owner an amount equal to the benefits of the resource in the future, when these benefits would accrue. And the owner would therefore be willing to conserve the resource now, since the costs of its depletion would incur to him, they would enter his production function. But the current user of the resource is not willing to arrest its depletion, because he will not be the one to receive these benefits in the future. He does not have a property right in the resource that would enable him to capture future benefits of it, and he is indifferent to them. Only current benefits and costs are pertinent to his decision about the rate of use. If the user of the resource had a property right to it, he would also consider it as an *asset* and not only as a *current income* opportunity. Wherever we have exclusive private ownership, there are incentives for the private owners to preserve the resource. Self-interest drives the private property owners to careful management and protection.

Beside overharvesting, habitat alteration is the other anthropogenic factor that leads species to extinction. But since the species that are lost might provide benefits to their users, why is their habitat altered? Why are the species forced to extinction while they could provide benefits?

To use a metaphor, people kill the goose that lays the golden eggs because they think they can use the nest. When the nest (the piece of land) enters the picture, things get complicated. The nest can be used of course, but for what purpose and for how long? And what are the reasons that would make one preserve the nest (and save the goose)? It seems obvious that one would do this, if one can earn more from the goose (and the nest) than only from the nest. But since it is usually not legally / institutionally possible to own the goose, while it is possible to own the nest, one cannot legally earn from the goose but only from the nest. But if one could own the goose and profit from harvesting the eggs, it seems obvious that one would have an incentive to conserve it.

An alternative policy approach on biodiversity conservation: Based on the above, it can be effectively argued that the assignment of private property rights in wildlife *can* promote conservation of biodiversity (actually of *any* resource). But saying this is not equivalent to saying that the assignment of private property rights in wildlife *does* promote conservation. So the question for someone who is targeting conservation and considers privatization of wildlife as an instrument to achieve his objective becomes: "When will private property rights do promote conservation?"

There is need for research to identify the conditions that should be present in the environment of someone who is vested with a private property right in wildlife to take the decision to preserve the goose (and the nest) out of self-interest. There is need for research to evaluate the potential for conservation of a particular management system based on private property rights, by looking at the conditions existing in the environment of the system. At the policy level, it will then be possible to influence the general environment of a management system towards conservation by focusing on these certain conditions which do have an impact on conservation.