

Research interests on sustainable development - January 2005

I: Sustainable ways to use natural resources.

Of the multitude of environmental problems that exist today, many are caused by conflicting resource uses. Conflicts arise between people who want to preserve natural resources and people who want to use them immediately. Decisions taken on conflicts like these have been usually unbalanced and biased towards non sustainable development. On the other hand, if preservation were costless, all natural environments would be preserved. In a world of scarcity, the preservation of nature in a "pristine" form incurs real costs to an expanding human population with real needs. Some kind of environmental manipulation is needed. The choice is not if we preserve nature or not, but for the means with which we will manipulate the environment and the directions which our development will take.

II: Policy oriented research on the economic benefits of resource uses.

Deciding who should use environmental resources how, where and when is complex. Decisions must weigh the values, variously perceived, of the resources and the compatibility of their potential uses. However, many environmental resources are not traded in markets and so do not have an obvious price. There is a danger, therefore, that the effects of human activity on the natural environment will be ignored. If they are not fully taken into consideration there is a danger that the decisions made will not be in the best interest of society.

Though environmental effects do not have a price, this does not mean they do not have value. This is the difference between financial analysis-which is concerned only with goods and services traded in markets-and economic analysis-which is concerned with society's well-being or welfare.

A major objective of research is to provide the decision makers with clear and objective information concerning alternative management options. The economic valuation of environmental resources enables decision makers to reach justified and not disputable decisions, utilizing information not only based on environmental but also on social and economic parameters. This can greatly alleviate the tensions between polluters and management authorities concerning the degree of pollution activities, and their effect compared to economic benefits that might arise from these activities. It can also provide the basis for a methodology with which "the polluter pays" principle is implemented in an objective and scientifically justifiable way.

III: Collective Action.

According to the study entitled THE ATTITUDES OF EUROPEANS TOWARDS ENVIRONMENT, published in EUROBAROMETER 58.0, written by THE EUROPEAN OPINION RESEARCH GROUP (EORG) in December 2002, half of Europeans feel that they can take useful action regarding the environment while the other half think that their actions in this field make no difference. But the vast majority of them say they are willing to act only "if others also make an effort".

The problem of rational individuals to cooperate in the pursuit of their common interests is at the root of most political activity and institutions. The problem of "Collective Action" needs to be tackled and solved. Research on how to establish the conditions and institutions that enable effective and beneficial collective action should be a priority in any society.

IV: The design of market-based instruments for achieving sustained environmental improvements.

Especially the governance of natural resources used by many individuals in common should be an issue of concern to researchers. The conditions under which common property resource problems have been (or have been not) solved should also be a research priority.

The need for the establishment of such conditions is strongly manifested in the above mentioned study, as Europeans place their trust, above all, in "environmental protection associations" and "scientists". As usually, businesses come in last place in the trust ratings (1%).

However, businesses acting on their own interest would be one of the prime care-takers of the environment, in the same way that they are the care-takers of their assets.

But the incentives are not right, and Europeans don't seem willing to change them. Of the solutions intended to "most effectively solve environmental problems", more or less the same number of Europeans chooses the solution of constraint (stricter regulations) and the idea of persuasion (increase "raising general environmental awareness").

However, regulation and persuasion do not address principal forces like the market, and cannot be effective. Persuasion may work in the long term, or under very fortunate circumstances, but it can always be forgotten in times of profit opportunities, or economic hardship. Regulation can occasionally work, but illegal activities will always occur, unless the costs of enforcement rise exorbitantly.

Such an instrument could be the privatization of what today are treated as public goods, such as biodiversity, or fisheries.

V: The identification of instruments that create the incentives for the conservation of biodiversity (and of any resource). The relation between the vesting of resources with private property rights and resource conservation.

Especially concerning biodiversity, the provision of incentives may be a more effective instrument for conservation than other instruments used today, because it treats the disease and not its symptoms. Instruments 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 first three methods may curtail extinctions, but allow the incentives that cause these extinctions to remain latent in the environment of the system. Instead, the provision of incentives is aimed to counteract the forces that drive extinctions.

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?

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 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, as 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.

Besides 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 in the EU 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.

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.