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# Environmental Markets: A Property Rights Approach

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## I

The phrase “environmental market” sounds unusual because the reader tends to understand the environment as an area traditionally reserved for state responsibility. This probably has to do with the fact that many environmental issues are thought of as public goods. This perception is widespread and deeply rooted in nearly all cultures. Anderson and Libecap in *Environmental Markets: A Property Rights Approach* go against the current perception by trying to show that there are many options before one arrives at the door of the government, provided some conditions are met. “The objective of the book is to promote greater consideration of property rights and markets in addressing environmental problems” (p. 1). The book goes against the current standard of thinking. More discussion for the book profile will follow a review of its main messages.

## II

*Environmental Markets: A Property Rights Approach* consists of eight chapters, a preface, acknowledgements and index.

Chapter 1, titled *Who Owns the Environment?*, is about diversity of environmental problems, definition of main concepts, and sets the stage for a further analysis. It is a suitable framework for further reading.

Chapter 2, titled *Is Government Regulation a Solution?*, discusses the history of state attempts to solve environmental problems with reliance on instruments like regulation, taxes and subsidies in addition to presenting shortcomings of the state action. The authors suggest that government action may be suitable to prevent problems in some areas like overfishing, groundwater overexploitation, and air pollution, but that it is far away from being the universal remedy. Putting aside some cases where the nature of the problem leads to government intervention, the authors suggest there is no way to say in principle that the state action is superior to market solution or *vice versa*. Environmental issues are numerous and highly diversified and they need to be considered from case to case in order to decide whose action is more suitable - government or market. Government action is not a panacea. Sometimes it is too costly, sometimes it fails and it requires a new action in order to correct a previous mistake, what may continue as an endless cycle of failures and corrections. In

addition, governmental regulation has positive (e.g. a shift from high to low sulfate coal use, and reduced emissions) and adverse effects (e.g. loss of interest for technological improvement and innovation) at the same time. Standard justifications for state interventions are of two types: (a) some environmental goods are public; (b) some resources are subject to the “tragedy of commons”.

Chapter 3, titled *Property Rights for the Common Pool*, is about common property, one of the larger challenges for the market approach. When property rights are not defined, some costs and benefits cannot be accounted for, leading to inefficient outcomes (over- vs under-use). It results in missing markets rather than market failure. Otherwise, an employment of market forces may be productive.

Chapter 4, titled *Local Property Rights to the Commons*, is about an area that was densely populated with environmental tragedy. Common property was either overexploited (when resources were valuable) or it was not cultivated and was neglected (resources of low value), resulting, in both cases, in the “tragedy of commons”. Anderson and Libecap show that common property is not hopelessly cut off from productive market solutions. Market approach may succeed even in such cases, provided some conditions are met, such as a tightly-knit and small community, clear leadership, clear norms of behavior, repeated exchange, restricted entry, observable use, and when the resource is of low value. The conditions are numerous and the list not easy to complete. Even if completed, there are other challenges to the operation of the market, suggest Anderson and Libecap, like exogenous shocks, defection or high decision making costs (p. 76, 210). As a result, sensitivity and vulnerability dominates environmental markets for common properties.

Chapter 5, titled *The Politics of Property Rights*, deals with political interference in environmental matters. When politics enter the equation the rules of what affects property rights and incentives change. Anderson and Libecap suggest in a manner of public choice that politicians follow political rather than economic interest. Politicians try to discover the most influential group around the environmental issue in question, and direct benefits to it *via* regulation in order to get votes. Where politicians obtain more leeway, “rent seeking over resource ownership is the norm” (p. 129). The power of politicians to influence the case depends on the mechanism of allocation of property rights. It is very strong in pure political distribution and much weaker or impossible with other mechanisms, like uniform allocation, auction or “first possession” rights.

Chapter 6, titled *From Property Rights to Markets*, is the most informative chapter which includes a diverse assortment of cases. The path from property rights to markets is very long and assumes some conditions are satisfied: “(1) the parties share in the goal of protecting the resource; (2) there are differences in the marginal value of resource use between production and environmental quality that can be exploited to promote exchange; (3) legal recognition of environmental uses exists; (4) the parties trust one another; (5) long-standing resource uses are not placed at risk from the environmental trade; (6) there is a minimum of outside bureaucratic interference that can add uncertainty and introduce regulatory complexities that did not exist prior to the exchange; (7) there are mechanisms for buyers and sellers to find one another, bargain, and enforce agreements” (p. 139). The longer the list, the more dif-

difficult to fulfill conditions, and the less opportunity for markets to exist. Out of the narrowed space for markets grow both opportunities for political interference and potential for waste of resources.

Chapter 7, titled *Tackling Global Commons*, is about the hardest nut in the environmental basket - global environmental problems. Atmosphere and migratory ocean fisheries represent the main examples in the field. Migrations and flows cannot be stopped or fenced, and there cannot be a guarantee for stocks available in some space at particular time. Uncertainties undermine the possibility of market solutions more than several jurisdictions encompassing the environmental area in question. Governments may create the right to use some asset/resource rather than a specific property right to asset/resource. Another problem is how to orchestrate the action of many states, which have different types of government, different habits, different levels of development and different interests. Even when some agreement is reached, a problem sometimes emerges after lengthy negotiations concerning how to monitor and enforce the agreement.

Finally, Chapter 8, titled *Property Rights and Environmental Markets*, is both about the main tenor of the book and a review of the main findings.

### III

The list of environmental goods includes topics like habitat, water of different kinds, atmosphere, clean air, biodiversity, forests, minerals and resources, protection of wild species, fish stock, temperature fluctuations, as well as regional and global pollution. The list is long and it keeps growing. The main environmental issue in a given country depends on many factors, such as geographic location, physical environment, climate and weather conditions, population and density, level of development, structure of the economy, transit directions, urbanization, resources and their exploitation, prevailing habits, tolerance for pollution, etc. These external factors that influence environmental problems are not in the forefront of the current discourse.

For generations, the environment was mentioned as a case for government intervention similar to elementary education or infrastructure. It is said that markets are unable to deal with environmental problems because private and social costs diverge and that only government may reduce this divergence, by limiting overexploitation in an administrative way to narrow the gap between private benefits and social costs or by providing services and aid where private benefits are inferior to social benefits. If the market fails, either by creating an externality or by stopping short before offering a solution, it is believed that government should act and mitigate damages to solve the problem.

The motivation for state action also emerged due to broadly present intuitions in contemporary society. Two of them are particularly important. First, there is the perception that natural resources are a public good. Second, environmental goods are considered to be given, what is a misperception originating in their narrow connection to the nature, and the pricing in the case of environmental goods is not considered to be fair. They should be shared by all without compensation.

The environment entered the political scene of developed countries in 1960s and 1970s. In selecting state environmental policies, politicians are under pressure to

follow voters' preferences. Voters usually prefer a state action over market solution. They also prefer a policy of direct regulation and command-and-control devices for price incentives. This is a double anti-market move. First, due to it being reliant on the state, and second, for downplaying prices. The fact that the environmental scene is set up to be anti-market does not surprise Anderson and Libecap, although it makes their job more difficult.

Anderson and Libecap in *Environmental Markets: A Property Rights Approach* argue that, as a rule, there are superior solutions before one turns to government, and that, again, as a rule, the government is a part of the problem rather than a part of the solution. Government intervention in environmental issues *via* regulation and taxes tends to be neither timely nor appropriate and efficient. The book, however, is not about the almighty market. It is about conditions that, if met, in some cases make markets successful in order to moderately able to handle an environmental issue. If these conditions are not met, markets are unable to tackle environmental problems. Who is at stake, government or market, depends on transaction costs, the authors suggest.

#### IV

When dealing with environmental issues, Anderson and Libecap use a property rights approach of the Coasean type. They manage to avoid questions surrounding Coase's theory of transaction costs and the neoclassical background of the theory that are passionately discussed, especially in libertarian circles. They do this by ignoring theoretical and methodological questions of the Coasean platform, and by concentrating on specific conditions to be met in order to get a market outcome. This amputation of theoretical background is less objectable than the extraction of specific conditions and its reference to Coase.

The theory originates in a definition of property rights, which is conventional rather than innovative in the field. It is neither new nor Coasean. "In order for property rights to effectively assign responsibility for environmental assets ... the owner must be able to measure and bind the asset, to exclude others, and to transfer rights *via* market exchange" (p. 14). Therefore, Anderson and Libecap proceed with Coasean ideas. Property rights will not be established if the costs of operations are too high. If property rights may be defined and enforced at a reasonable cost then environmental markets will follow. Effective property rights will drive resources toward their higher valued uses. In order to know whether this is the case, one needs to be aware of the opportunity costs. In addition to this, some external conditions need to be met in order to create efficient environmental markets. These are neither less numerous nor less important than the internal ones mentioned above, and they are a result of experience rather than conditions proper:

- local markets function superior to broader and global markets;
- informed market participants promise better outcomes compared to their counterpart, i.e. the state;
- informal rules matter, they are more important than most usually recognize;
- an enforcement mechanism is needed.

One may doubt that it is possible to complete the list of necessary and sufficient conditions for emergence of the environmental market. For example, the authors do not mention the size of the market as one of the conditions for its viability. It seems that one of the reasons for vulnerability of an environmental market is that it is small. Many are interested in bread, tomatoes or cars, and for that they are the subject of many exchanges, while there are much less competing claims related to an environmental protection of some brook in South Finland or hill in Greece. The intensity of pressure of competing claims around scarce resources may significantly influence any market, including the environmental market. Clearly when some valuable environmental asset is in question, the pressure of competing interests will be much stronger. However, keeping in mind the total number of environmentally relevant assets, valuable assets in the field are rather exceptional.

As any other good, environmental goods are exposed to a rivalry of competition among different potential users. The worst results appear when goods are accessible to all, because it leads to overexploitation of resources and their inefficient use. This is frequently referred to as a “tragedy of commons”. What is needed to avert disaster is briefly mentioned in Chapter 4.

The basic tenet of the book is that environmental problems are better approached through “the greater definition of property rights and market exchange” (p. 1). Environmental markets are absent where property rights are unclear or disputable, where they are not enforced, and where there are legal restrictions. Anderson and Libecap analyze a broad spectrum of environmental cases, from local to global, from clean air to biodiversity, and look at different property rights regimes and other factors affecting the possibility of a solution for an environmental problem. If they feel that the market forces are able to provide a solution, they say why. If they find out that market forces fail, they say why. This provides their approach with an analytical rather than catechist spirit that is so frequent in economics and social sciences.

## V

*Environmental Markets: A Property Rights Approach* is a very good book, as it may be expected from the authors championing the field for a long time. It is written clearly, without unnecessary complications, and with an excellent control in exposition and writing. Its first substantial merit consists in questioning the role of government - frequently considered to be exclusive - in operating environmental issues. Its second merit is in providing the grammar of environmental markets, including their limits and their strengths. The most challenging aspect of the book is its rights driven approach. It is well exemplified in an intellectually and politically sensitive area.

It is curious that the authors have completely ignored highly politicized questions of global warming vs cooling and some other environmental disputes of contemporary society. It may be that they felt they are a matter of fashion rather than of logic, and that they have considered that these issues do not fit to such a book. Or that they, if and when introduced, would be page consuming.

Cases presented in *Environmental Markets: A Property Rights Approach* are less numerous than in other books in the field, but they are carefully selected and well presented. Photos and pictures are not visible, and some of them are not neces-

sarily for this type of the book, for example the portraits of Pigou, Coase and E. Ostrom (p. 34, 59, 95).

Anderson and Libecap side with the American practice (USA and Canada), where common law liability approach to pollution and other environmental issues is abandoned in favor of the state administrative law. This has practical as well as conceptual consequences. Pity that authors are not more permissive to common law solutions, prevailing in England, which are more in line with the main tenets of the book. For example, English fishing clubs and their associations are very active in fighting river polluters, which resulted in a good quality of river waters in the country, with notable exception of the lower Thames. Also, some examples of wildlife protection *via* creation of property rights rather than *via* administrative action in Africa were ignored, although a similar case in fisheries in New Zealand is mentioned. These cases fit well to the property rights logic of the book.

Finally, another general point. It seems that both: (i) the sensitivity to environmental issues; (ii) the reliance and use of market approach in dealing with environmental issues, beyond other things, also depend on the degree of presence of the market economy in a country. While (ii) is clear and intuitive, (i) is not. Market democracies do have better protected environments compared to less enthusiastic market regimes, and even these later ones are superior in solving environmental problems to the Soviet Union and its communist allies in the East Europe that were well known for severe environmental problems and devastation. No other group of countries in the world, besides the Soviet Union and other communist regimes, have gone so far in the exploitation and destruction of their own environment. Is this because the regime was non-responsive, while being a communist dictatorship? It may be that this originates from the absence of private property rights and other elements of market economy. Property rights existed, but all capital goods were a state property. The Soviet case indirectly confirms the approach from *Environmental Markets: A Property Rights Approach* - the less the market, the more problems with environment and the more poor solutions. So, the market matters.

All in all, *Environmental Markets: A Property Rights Approach* is a very nice book, one of the best in the field, suitable for both specialists and beginners. Analysis precedes conclusions, which suits the book to be a classic in the field. *Environmental Markets: A Property Rights Approach*, with its property rights approach, will compete successfully with rivals of other flavors, especially with the most prominent ones, like public finance, political economy and public choice.