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Opinion

The Economic Valuation of Ecosystem Services: A Path Leading to a Synthesis between Anthropocentrism and Ecocentrism

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Opinion

A lot has been written about the economic valuation of natural resources and of the so-called ecosystem services: from the works of [1-4] to nowadays, a large number of papers and books have been published on that specific topic. As it is well known, ecosystem services are defined as the benefits people obtain, directly or indirectly, from ecosystems (and, more specifically, from ecosystem functions) (see the Millennium Ecosystem Assessment, MEA, 2005). That concept refers to an anthropocentric vision of the world: the environment is considered as an element which can contribute to human well-being [5]; at the same time, I believe that it is hard to deny that an ecosystem-based approach to the definition of public policies-concerning the protection of the environment-represents a way by which the environment itself receive a central consideration: this follows from the need to identify a limit beyond which an ecosystem lose its capacity to regenerate itself and to provide a regular flux of ecosystem services. If there is a limit concerning how much a specific ecosystem (and, in a larger scale, the whole biosphere) can be exploited by humans, as a consequence can be stated that some components of the environment are in a way untouchable. It's a statement that can be usefully used in order to support an ecocentric approach (no matters that support come, in its origin, from an anthropocentric scheme!), according to which the environment has to be considered for its intrinsic value (that has to be recognized and protected by mankind).

This conclusion is also supported by the consideration that not all of the ecosystem functions, and the services provided by them, refers to mankind: some of those functions and services (consider the category which is qualified "of regulation" by MEA and The Economic of Ecosystems and Biodiversity, [5], just to mention one) are directly connected and addressed to the environment itself. Even those services and functions deserve protection, and a protection which should be particularly intense. One of the most relevant application of the "ecosystem services-based approach", such as the one concerning the economic valuation of those services and the consideration of natural resources as stocks of the so-called Natural Capital (using the general definition of capital that yields a flow of services over time [2,4], reinforces that conclusion.

In fact, there is nothing more "anthropocentric" than the idea of expressing the value of the environment in monetary terms; nonetheless, as it has been underlined by many authors, the valuing process has to be considered as one of the best strategies to raise awareness of environmental matters in people and decision makers and, due to that, to ensure an effective protection for the environment. Considering natural resources as stocks of the Natural Capital is one of the best ways to make people aware of the value and the importance of those resources (and we are talking about "intrinsic value", nor just the value connected to the production of a flux of services that provide benefits to people). It's also of common knowledge that is unwise to exploit stocks of resources till their complete consumption: it's a fooly and short-term strategy.

The same concept applies to Natural Capital: the overexploitation of natural resources, caused by a non-sustainable model of economic growth, can determine irremediable consequences, interrupting or completely destroying the flux of those ecosystem services

which specifically guarantees the equilibrium of the ecosystems (such as the cited "regulating services"). We can therefore conclude, following what we have previously observed, that there is at least a part of the so-defined Natural Capital that is untouchable, by humans: it's a sort of "super-capital", the importance of which is placed above everything else [6], and that has to be preserved from exploitation and impairment.

In that context, we can state that decision makers (which value natural stocks and fluxes of ecosystem services) have to consider that even if the whole stock of natural resources can ben valuated in monetary terms, every ecosystem - considered as a set of interactions between biotic community and its physical environment [7]-has components (or part of them) which are untouchable; due to this, even if a value can be put above those natural resources, that value is somewhat "virtual", considering that the "true value" of those components is significantly higher (or maybe non determinable at all) because of the described limits to its exploitation.

In the described framework, the greatest problem for decision makers to be solved is connected to the necessity of the individuation of that part of the Natural Capital that has to be considered as untouchable (and not valuable, or valuable in a "virtual way" only): that part of the Natural Capital is not always the same, because it depends on the specific ecosystem considered and on the level of resource consumption. That being so, in order to avoid mistakes and the definition of policies that are not effective, decision makers in the described process of individuation of that part of the Natural Capital that has to be considered as untouchable - need to base their decisions on available scientific and technical data (as it is also broadly stated in article 191 of the Treaty on functioning of the European Union): it follows that scientific research has a central role in the environmental decision making.

In fact, the huge diffusion of technology in the modern society influences deeply the definition of public policies and the processes of rulemaking made by Governments and Parliaments, so it's easy to find laws that are written and adopted accordingly to the rules, standards and criteria discovered and set by science. In that context, it's clear that only the achievement of a correct and profitable relationship between law, science and technology can offer to public decision makers (such as national Governments and Parliaments) a specific "set of tools" and the conditions by which they can face the challenges offered by the topics that concerns the actual numerous threats for the environment and the way by which those threats can be countered; as a consequence, we have to conclude that public decisions assumed without caring about the rules, parameters and criteria set by science and technique have to be considered unreasonable and, in a way, illegitimate.

Conclusion

In conclusion, it's to be underlined that an anthropocentric approach (such as the one based on the economic valuation of ecosystem services) can lead to a model of setting public policies (concerning environmental matters) that shows interferences and connections with an ecocentric vision of the world. That model, if broadly spread and applied to the decision-making process can contribute to find a synthesis between the two described models (the anthropocentric and the ecocentric one) and to match the needs connected to the definitive application of a model of sustainable development, as requested by the European Union and by the climate change which is a no more-deniable emergency of our times. Valuing natural resources and the flux of ecosystem services provided by them is neither impossible nor unwise, and it doesn't represent a way by which mankind put itself above everything else; on the contrary, it has to be considered as a valid approach for setting effective policies that concern environmental matters: a process, the one which concerns the setting of policies, to which a fundamental contribute has to be given by science.

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