

Non-market motivations in biodiversity economics and governance

- Guest article for BIOECON newsletter -

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1. Background

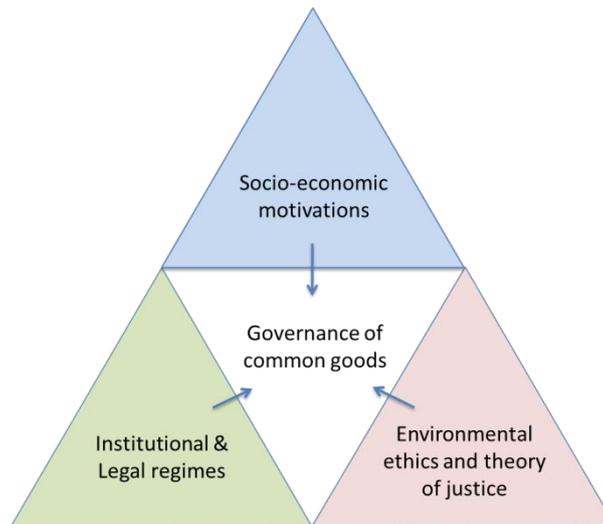
Research over the last two decades has shown that human influences on global life support systems have reached a magnitude unprecedented in human history. On the one hand, pro-growth economic policies have encouraged rapid accumulation of manufactured goods and technological innovations, and resulted in increased human prosperity in many parts of the world. On the other hand, overexploitation of the world's stock of natural wealth on the global scale has increasingly detrimental impacts on the wellbeing of present generations, leading to a broadening ecological crisis and ever widening social disparities. Concomitantly, the conventional development models also present tremendous risks and challenges for future generations.

In response to these challenges, an increasing interest has raised in interdisciplinary sustainability science over the last two decades. Sustainability science is not a scientific discipline by any usual definition, but a research field characterized by a new form of collaboration amongst disciplines and between disciplines and practitioners. As noted by Elinor Ostrom, if sustainability science is to grow into a mature field of research, we must use the knowledge acquired in the separate disciplines of anthropology, biology, ecology, economics, environmental science, geography, history, law, political science, psychology and sociology to build and strengthen diagnostic and analytical capabilities of the stakeholders that are directly confronted to practical sustainability problems (Ostrom, 2007).

To address global challenges in such an interdisciplinary way and seek new solutions to the sustainability problems that we are facing today, a new research unit on Biodiversity governance (BIOGOV) has been recently established in the Centre for Philosophy of Law (CPDR) at the Université catholique de Louvain (UCL), Belgium. Led by Tom Dedeurwaerdere, the young team consists of 5 PhD and 10 Postdoctoral researchers from interdisciplinary backgrounds including law, philosophy, political science and environmental economics. Its research is developed through international (EU-FP7) and national (IUAP VI/06) research networks, focusing on the development of methodological approaches in two dimensions: (1) deepening our understanding of the motivations behind the individual and/or collective actions in the conservation of common goods that are beyond the sole economic rationale, and (2) strengthening the existing governance regimes over resource commons and biodiversity, through demonstrated successful cases worldwide.

2. The Research Architecture and Expected Outcomes

To accomplish its ambitious objectives, the activities of the BIOGOV unit are organised under three different research themes, serving as the three pillars for supporting the effective governance of common goods (See figure below).



(1) The socio-economic dimension: This research line focuses on motivations of the conservation activities that combine market and non-market motives.

Economic research has shown that biodiversity has total economic values running into the trillions of Euros worldwide and hundreds of millions even for 'minor' ecosystem services on local scales. In spite of these immense values, politicians and the public in general do not appear to respond swiftly and effectively to prevent further biodiversity degradation. Why is that? What could really work to motivate publics and politics into action for biodiversity?

In fact, economic valuation is only one element in the effort to improve biodiversity policy and a degree of pessimism continues to surround economic valuation efforts. Even if all methodological problems would have been surmounted and the Total Economic Value of biodiversity could be assessed with great certainty, would that really motivate publics and policies into swift and effective action? Nothing points at a positive answer yet. It would seem that TEV values are simply too big to handle, too abstract and too weakly connected to our core motivations.

This concern increases further if we look at research results of people's 'visions of nature' in Europe (De Groot et al. i.p., De Groot and De Groot 2009). Surveys conducted in France, the Netherlands and Germany show that the majority respondents strongly adhere to notions of Stewardship or even more ecocentric images of the human/nature relationship. People often remark that the value of nature is infinite. Yet, only very few people really take action for nature or demand their governments to do it.

In response to these questions, much thought has recently been given to the positive role of commons in modern economies, in response to what had become conventional wisdom concerning a supposedly ineluctable "tragedy of the commons" (Hardin, 1968). The seminal work of Elinor Ostrom and her colleagues focused on commons-based management of natural resources, as regulated by a clearly defined group of local users (Ostrom 1990). Empirically, the formal proprietary scheme underlying the administration of such resources varied in practice, from a purely private property regime to various forms of collective ownership, including direct state ownership (Ostrom 1990; Ostrom et al. 2002; Platteau 2000). Ostrom's work accordingly sought to establish the possibility of a sustainable intermediate economic alternative, situated midway between market regulated exchanges of private entitlements and pure public goods that typically depend on state-based governance of resources.

Inspired by the work of Ostrom, this line of research will take successful actions for biodiversity as its point of departure and then ask what understandings of the value of biodiversity has motivated these actions in terms of engagement in the successful governance actions across the world. Furthermore, it will analyse the most appropriate economic metrics to express the value of biodiversity in supporting policymaking. Finally, document analysis and interviews with key actors will be conducted as the empirical basis. As a result, this research line aims to deliver new insights into how biodiversity values can be put to work in biodiversity governance at the local to the global scales, in particular through three case studies:

- * Agro-environmental payments in Walloon region for biodiversity conservation (led by Audrey Polard)
- * Multi-criteria assessment of sustainable animal farming systems in Europe for the LowInputBreed project (led by Helen Ding)
- * Collective actions at local level for the management and development of 'cultivated biodiversity', in France – network of *Semences Paysannes* (AgroBio Perigord Association) (Led by Fulya Batur)
- * Socio-economic study of the motivations behind successful biodiversity initiatives in Europe (Led by Dimitra Manou and Jose Louis Viveropol)
- * Modeling network goods in public good games and analysing the effect of intrinsic preference and coalition formation on the provision of natural goods (Led by Paolo Melindi Ghidi)

(2) The institutional and legal dimension: This research line explores stewardship and liability regime as an alternative to proprietary solutions for ownership over biodiversity and genetic resources

The institutional and legal dimension for managing biodiversity is fundamental, as it provides incentives for actors to engage and respect environmental friendly initiatives and regulations, and defines the framework where enforcement and compliance ensures an improvement of biodiversity indicators and enhances research.

This research line focuses on existing frameworks for the management of genetic resources and seeks alternatives to the strong proprietary regimes and monetization of biodiversity and genetic resources emerged with the Convention on Biological Diversity. It analyses self-regulatory conservation frameworks and exchange regimes shaped as commons, whose concept has been applied to a wide range of tangible research resources in the life sciences, such as pooled genetic resources (Byerlee and Dubin, 2010; Dedeurwaerdere, 2010), to intangible information goods that are pooled and distributed through digital networks (Lessig, 2001; Benkler, 2006), and to natural resources.

This research line will conduct a comparative institutional assessment of the effectiveness of governance of local, national, and global networks of exchanges of genetic resources and initiatives for conservation of biodiversity, in order to evaluate existing institutional solutions for building various commons. In particular, we will propose innovative governance arrangements in the following Projects:

- * Analysis of commons case studies in the field of genetic resources (plant, animal, microbial) within the GENCOMMONS Project (Led by Arianna Broggiato, Dimitra Manou and Arul Scaria)
- * Proposing globally accepted templates of an access and benefit sharing agreement for marine genetic resources and a data license agreement for genomic data based on a combination of liability rule, viral license clause and a public domain approach for non-commercial activities under project MICROB3 (Led by Arianna Broggiato and Arul Scaria)
- * Research on alternative IPRs in agro-biodiversity for "mass selection" (Led by Fulya Batur)

- * Geographical indications of origin for regional sustainable development (Led by Nicola Lucchi)
- * Research on international law and governance of plant genetic resources for food and agriculture in a global public good framework (Led by Christine Frison).
- * Mapping the motivations of developing countries compliance with the CBD (Led by Brendan Coolsaet).

(3) The normative dimension of sustainability: environmental ethics and theories of environmental justice

Sustainability has become part of the mainstream policy discourse over the last two decades. However, despite its interdisciplinary approach, sustainability research is still a long way from genuinely integrating concepts and methodologies from ecology, economics and social sciences. A more thorough reflection on values and theoretical assumptions is needed in order to provide structure to this rapidly-developing field.

At the same time, policy objectives related to sustainability are often very modest and research results have a limited impact on the science-policy interface. There are a number of reasons for this. One of them has to do with the uncritical acceptance of methodological assumptions such as weak sustainability (the possibility to indefinitely substitute natural capital with produced capital) or the possibility of decoupling economic growth from resource consumption, in spite of the growing evidence against the possibility of global decoupling (Jackson 2009). Another reason has to do with the under-consideration of values and normative commitments in sustainability science, in a positivist tradition for which value-neutrality is a necessary condition of objectivity.

If sustainability is to become a powerful concept informing developmental policies, it has to clarify its epistemological and normative foundations, by integrating contemporary debates in environmental ethics, theories of justice and economic valuation. Our research unit contributes to this process by focusing on three key issues:

- a. the development of specific notions of efficiency and justice for human-environment systems, and the corresponding ethics that explicitly deals with complexity and uncertainty in a holistic and long-term perspective;
- b. the clarification of the relationships among the different value-laden goals and assumptions underlying sustainability research, and the identification of potential conflicts and trade-offs;
- c. the development of operational qualitative and quantitative indicators for research and the determination of adequate targets and thresholds for specific research problems.

These interrelated research lines are currently pursued through the following cases:

-  Research on the capabilities approach developed by Amartya Sen and the wilderness concept in biodiversity ethics (Led by John Pitseys);
-  Foundations of ecological psychology in William James' philosophical pragmatism (Led by Benjamin Six)
-  Epistemological and normative foundations of sustainability science and its application to integral ecology (Led by Florin Popa)

- ✚ Development of a concept of nature compatible with contemporary quantum physics and evolutionary biology (Led by Matthieu Guillermin)
- ✚ Multi-criteria assessment of sustainable animal farming systems in Europe (Led by Helen Ding).
- ✚ Developing systematic approaches for research on environmental justice in the context of international politics of the environment (Led by Brendan Coolsaet)

Note: More information on our research and projects is available at: biogov.uclouvain.be. In the mean while, we welcome any form of comments, suggestions, and research collaborations.

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