Ecosystem Services 7 (2014) 98–105

Contents lists available at ScienceDirect

Ecosystem Services

journal homepage: www.elsevier.com/locate/ecoser

Ecosystem services economic valuation, decision-support system or advocacy?

Yann Laurans [a,*], Laurent Mermet [b,1]

[a] IDDRI (Institute for Sustainable Development and International Relations), Sciences Po, 27 rue Saint Guillaume, 753377 Paris, France
[b] AgroParisTech, Centre Paris-Maine, 19 Avenue du Maine, 75732 Paris Cedex 15, France

ARTICLE INFO

Article history:
Received 24 March 2013
Received in revised form
3 October 2013
Accepted 17 October 2013
Available online 9 November 2013

Keywords:
Economic valuation
Decision-making
Utilization
Policy-making

ABSTRACT

There appears to be a discrepancy between the massive presence of Ecosystem Services (economic) Valuations (ESV) in biodiversity discourse and literature and the small number of examples where it is documented and demonstrated that they have been instrumental in changing policies. Part of this discrepancy may reflect an insufficient fit of ESV to the organizational and political dimensions of decision-making. This paper thus explores the relation between decision-making as it is viewed in the theoretical roots of ESV and also as it is depicted in disciplines that take decision as their central topic. Three alternative and complementary types of decision models (rational decision-maker, organization and political process) each shed a different light on what ESV can be useful for, and what qualities are then required of it. In general, the contribution of ESV to decision-making relies both on its ability to bring rationality to decision-making, and on its procedural qualities as resource of influence that is needed for advocacy and justification. Thus, the usefulness of ESV cannot be enhanced by either the strengthening of their rigor or the enhancement of their procedural qualities alone: to successfully address the challenge, both of these measures are required in combination. This produces a tension between the rational and substantial abilities that ESV must sustain on the one hand, and the rhetorical and procedural qualities it should develop on the other hand. To overcome this tension, it may prove useful to draw lessons from the field of policy evaluation. In this field, rationalization-based and process-based methodologies once fiercely contested each other. However, process-based and content-based methodologies are now deliberately combined in diverse designs.

© 2013 Elsevier B.V. All rights reserved.

1. Introduction

Ecosystem Services Valuation (ESV) now occupies a central place in both the political and academic agendas of biodiversity conservation (see in particular Costanza and Jorgensen, 2002; Farley and Costanza, 2010; Secretary of State for Environment Food and Rural Affairs, 2011; Sukhdev et al., 2010). There appears, however, to be a discrepancy between the massive presence of ESV in biodiversity discourse and literature and the small number of examples where it has been documented and demonstrated to be instrumental in changing policies (Boezeman et al., 2010; Goldman et al., 2008; Navrud and Pruckner, 1997; Sagoff, 2011; Turner et al., 2003). This discrepancy raises concerns about the relevance and future of ESV: can we go on refining calculation methodologies, applying ESV to all kinds of ecosystems and contexts, without clarifying how they will or will not impact decision-making?

There is a growing feeling that the scientific community should pay more attention to the Use of ESV (UESV), and to what is sometimes seen as an "implementation gap" between the possibilities of ESV and its actual utilization for decision and policy-making (Fisher et al., 2008; Fraas, 1991; Kushner et al., 2012; Liu et al., 2010; OECD, 2002; Pearce and Seccombe-Hett, 2000; Ruckelshaus et al., 2013). In a recently published paper (Laurans et al., 2013), we reviewed 313 papers dealing with ESV, from peer-reviewed literature, and analyzed how they addressed ESV. We showed that issues of UESV are, in our sample, only cursorily referred to, with only a very small number of papers taking utilization as a central subject.

This scarcity of reference to UESV gives rise to very different interpretations. Some stem from the assumption that the scientific community does not devote significant efforts to studying the process of utilization, which therefore goes unobserved in the literature (Fisher et al., 2008; Gowan et al., 2006). Others assume that ESV is in fact scarcely used, due to its remaining imperfections (Bingham et al., 1995; O'Neill, 2007; Toman, 1998; Turner, 2007), or

* Corresponding author. Tel.: +33 6 15 21 93 22.
E-mail addresses: yann.laurans@ecowhat.fr, yannlaurans@free.fr (Y. Laurans), Laurent.mermet@agroparistech.fr (L. Mermet).
[1] Tel.: +33 3 25 38 40 16.

2212-0416/$ - see front matter © 2013 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.ecoser.2013.10.002

to decision-makers being unwilling to quantify decision criteria and options (Braüer, 2003; Driml, 1997; Hahn, 2000; Liu et al., 2010).

Most of these assumptions are worth considering, and we concluded our recent review by putting forward new research avenues on the UESV (Laurans et al., 2013). In this paper, we now turn to the exploration of one of these avenues: the need to characterize clearly the policy-making processes for which ESV is often put forward as a useful resource. Failing to do so might lead to the offering of instruments that are not fully adapted to a user's needs, which could in turn explain why they are not used extensively. When it comes to "delivery" and having an impact on decisions, as Daily et al. (2009) rightfully called for, an explicit and relevant understanding of the decision-making process is of the essence. Researching how exactly, in the real world of policy-making, ESV can bring improvements to environmental decision-making is clearly a valuable subject for analysis.

Following this research avenue and probing the implementation gap, the purpose of this paper is to explore the relation between decision-making as it is viewed in the theoretical roots of ESV and also as it is depicted in disciplines that take decision as their central topic.

Section 1 examines the "rational" model of environmental decision-making processes that explicitly or (often) implicitly underlies the environmental economics literature. It depicts how this representation shapes our most common concepts of the roles of ESV. Section 2 compares it with complementary representations taken from basic political science and organization sociology, that suggest at least complementing the rational model with the "organizational" and "political" models. Section 3 discusses these findings and suggests that we should draw on the precedent of the policy evaluation field to better link the evaluation process with valuation instruments.

2. The rational model of decision-making underlies the ESV literature

Much of the attention devoted to ESV stems from the hope that it will result in better decisions about the environment (see e.g. Pearce, 2007). This requires that valuation is actually used for decisions, and that it has a significant impact on these decisions. How is such usage envisaged by the ESV literature, and how are valuations expected to impact decision-making?

2.1. The "pure" model of decision-making in environmental economics: Noah in search of the optimum

As one looks at the fundaments of environmental economics, one rapidly realizes that decision-making is modeled as the identification and then search for a collective optimum, by a rational agent. This agent's decisions are based on weighing the costs and benefits attached to the options she is facing. Our analysis will be based on textbooks such as Pearce and Turner (1990), Barde and Pearce (1991), Cornes and Sandler (1999), OECD (2002) and Freeman (2003).

2.1.1. Collective optimum as a guide for decisions

Throughout environmental economics textbooks, valuation efforts are said to aim at assisting policy-making. Economic analysis is meant to equip the definition and search of a political norm (the collective optimum). This is done by revealing, in a commonly shared and manageable metric, the demand for ecosystem services. However, how policy is made, and who exactly is supposed to make use of this information, is always kept implicit. Actions are described using the passive form: the optimum "is defined", solutions "are chosen". Textbooks leave it for others to define by whom and how these norms should be implemented and the instruments handled. As Freeman puts it in one such environmental economics classic, "Once the objective of maximum net economic value or economic efficiency has been accepted, policy becomes an almost mechanical (but not necessarily easy) process of working out estimates of marginal benefit and marginal cost curves and seeking their point of intersection." (Freeman (2003), p. 10).

2.1.2. Policy-makers as Noah and his ark?

Of course, all these authors are well aware of the fact that ESV does not operate in such a social and political vacuum as to be an "automatic" optimization, as Freeman suggests in his parenthesis above. It has to be taken up and used by real policy-makers. But – and still according to the environmental economics fundaments of ESV – who are those real policy-makers, and how do they decide?

When decision-making is viewed as optimizing, environmental policy-making theoretically results from choices made by a decision-making entity, which has to choose priorities and produce judgments regarding the use of limited resources (public spending, natural capital, land allotment…) and the regulations of the market (acts, authorizations, property rights, instruments…). Regardless of whether he is an individual or a collective, this "decision-maker" weighs the different possible options, and allocates means and constraints optimally according to the result of this weighing.

Such a model of decision-making clearly underlies, for example, the well-known paper by Metrick and Weitzman (Metrick and Weitzman, 1998), where biodiversity conservation is conceived as equivalent to the problem of a pure rational actor, Noah and his ark: a series of choices made by one agent for the sake of humankind, based on a budget constraint (the capacity of the ark), and on values attributed, through ESV, to the species. ESV is then intended to inform this decisional weighing, by revealing values on which an optimization calculus can be applied. This is also typical of Moyle's analysis of the Principal-agent problem of designing optimal biodiversity conservation contracts (Moyle, 1998) and of Westerberg et al.'s assessment of the optimal wetland restoration surface (Westerberg et al., 2010).

In this "pure" model, ESV is expected to reveal values that are not adequately signaled by the market due to their specific nature (public good externalities, club goods… (Cornes and Sandler, 1999)). ESV is thus a specific kind of information or expertise, to be factored into decision-making based on cost-benefit reasoning. As OECD wrote, "cost-benefit analyses (CBA) of specific investments and policies, that properly incorporate environmental costs and benefits, are essential to enable policy makers to choose the investment or policy option that maximizes total net benefits to society" (Dixon and Pagiola, 2001, p. 12).

CBA provides both the method by which data and values are expressed and ordered, and the model for the process by which a decision is to be made (Munda, 1996). Decision-making and decision-makers are relays who should translate results as faithfully as possible from economic reasoning and calculus into the making of policy choices. An example of how such concepts influence views on the use of ESV is the repeated call made in the ESV literature for the better training of decision-makers in economics (Driml, 1997; Hahn, 1989; National Research Council et al., 2005; World Resources Institute, 2008).

2.2. The adapted model of decision-making: ESV contributes in two different ways

Despite the pervasive presence of the "pure optimization" model in the ESV literature, economists do not generally pretend

Download English Version:

https://daneshyari.com/en/article/6556922

Download Persian Version:

https://daneshyari.com/article/6556922

Daneshyari.com