



A new valuation school: Integrating diverse values of nature in resource and land use decisions



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ABSTRACT

We are increasingly confronted with severe social and economic impacts of environmental degradation all over the world. From a valuation perspective, environmental problems and conflicts originate from trade-offs between values. The urgency and importance to integrate nature's diverse values in decisions and actions stand out more than ever.

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Benefits of nature
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 Decision support

Valuation, in its broad sense of ‘assigning importance’, is inherently part of most decisions on natural resource and land use. Scholars from different traditions -while moving from heuristic interdisciplinary debate to applied transdisciplinary science- now acknowledge the need for combining multiple disciplines and methods to represent the diverse set of values of nature. This growing group of scientists and practitioners share the ambition to explore how combinations of ecological, socio-cultural and economic valuation tools can support real-life resource and land use decision-making.

The current sustainability challenges and the ineffectiveness of single-value approaches to offer relief demonstrate that continuing along a single path is no option. We advocate for the adherence of a plural valuation culture and its establishment as a common practice, by contesting and complementing ineffective and discriminatory single-value approaches. In policy and decision contexts with a willingness to improve sustainability, integrated valuation approaches can be blended in existing processes, whereas in contexts of power asymmetries or environmental conflicts, integrated valuation can promote the inclusion of diverse values through action research and support the struggle for social and environmental justice.

The special issue and this editorial synthesis paper bring together lessons from pioneer case studies and research papers, synthesizing main challenges and setting out priorities for the years to come for the field of integrated valuation.

1. Introduction: why value nature?

We, as human species, are pushing the earth's system and biosphere beyond several planetary boundaries, undermining the long-term conditions for our own survival (Rockström et al., 2009; Steffen et al., 2015). As a direct result, we are increasingly confronted with severe social and economic impacts of environmental degradation that lead to ecological conflicts all over the world (Armiero and Sedrez, 2014; Martínez-Alier et al., 2016). From a valuation perspective, environmental problems and conflicts are the consequence of trade-offs between values held by different groups of stakeholders, which in many cases are not well represented in the decision making process (see Iniesta-Arandia et al., 2014; Phelan and Jacobs., 2016; Villegas Palacio et al., 2016).

The urgency and importance to integrate nature's diverse values in our land management decisions and actions stand out more than ever. Fuelled by public indignation and NGO pressure concerning climate change, mining disasters, and ever-faster destruction and degradation of nature, several governments and private companies have started to recognize sustainability challenges and are looking for solutions. Although there are economic interests to maintain status quo or even fasten unsustainable natural resource use, the popular outcry for socially fair and long term sustainable strategies is clear, from the very local (e.g. ‘indignados’ and ‘occupy’ movements) to the planetary level (e.g. SDG's, IPBES).

Valuation of our environment is nothing new. As a current scientific field, it has emerged from traditions in ecological as well as environmental economics (Gómez-Baggethun et al., 2010; Baveye et al., 2013), environmental justice (e.g. Martínez-Alier, 2002) and ecosystem service assessment practice. Valuation of nature and its services has become central to an increasing amount of academic literature (Fisher et al., 2009; Seppelt et al., 2011). This proliferation has been stimulated by policy initiatives such as the European Biodiversity Strategy to 2020, the Aichi targets, the Sustainable Development Goals and the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). Under these umbrellas, national and local ecosystem service assessments and valuations are thriving (e.g. UK NEA, 2011; Santos-Martín et al., 2014; Jacobs et al., 2015, 2016).

Valuation of nature, in its broad sense of ‘assigning importance’ (Boeraeve et al., 2015; Dendoncker et al., 2013), forms part of many if not all decisions on natural resource and land use. Different value dimensions (ecological, cultural, economic, self-interest, electoral, or ethical) are implicitly or explicitly part of decision making and its justification (Kelemen et al., 2015). Here, the key challenge is to represent most of the values held by different stakeholders and, thus, to

represent the diversity of values of nature, such as intrinsic, relational and instrumental values (Díaz et al., 2015). Uncovering and eliciting these diverse values necessarily requires integrating diverse valuation approaches (Martín-López et al., 2014; IPBES, 2015).

2. The dust is settling on the nature valuation debate

After over 50 years of fierce scientific debate between -and development of thought within- different schools of valuation (e.g. Martínez-Alier, 1998; Baveye et al., 2013; Beder, 2011), the dust seems to be settling. From an applied perspective, the need for combining multiple disciplines and methods to represent the diverse set of values of nature is increasingly recognized. In fact, a growing number of scientists and practitioners subscribe the ambition to further explore how *combining* ecological, socio-cultural and economic valuation tools can support resource and land use decision-making. The applied school of “integrated valuation” is building on earlier traditions in sustainability science. However, integrated valuation explicitly aims at including the multiple values and worldviews in a coherent and operational framework aiming at societal rather than (only) academic impact (Gomez-Baggethun et al., 2014, 2016; Kelemen et al., 2015, Barton et al., 2016; IPBES, 2015, see Fig. 1). What started as a small informal working group within a monetary valuation dominated network,¹ has grown into research project working packages and deliverables², and percolated in the valuation guidelines of the largest assessment of biodiversity and ecosystem services to date (IPBES, 2015). Researchers from different disciplines, fuelled by the urgency of addressing sustainability challenges, are working to operationalize integrated valuation approaches at different levels, i.e. from place-based research (e.g. Martín-López et al., 2014; Cabral et al., 2016; Phelan and Jacobs, 2016) to regional and global assessments (IPBES, 2015).

Mainstreaming a new culture of valuation can only be achieved by moving the scientific field beyond heuristic interdisciplinary debate, by learning from real world applications, sharing successes and failures, and explicitly choosing for transformative research for sustainability. To this end, the present special issue and this paper aim to bring together experiences on integrated valuation from multiple pioneer case studies and research papers. This synthesis paper is the editorial closing piece of the special issue ‘Integrated Valuation of Ecosystem Services’ which aims to synthesize the main

¹ <http://es-partnership.org/community/workings-groups/thematic-working-groups/twg-6-valuation-of-es/>

² <http://www.openness-project.eu/about/work-packages>

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