

Discussion paper – Methodological/conceptual framework for WP3.2

OPERAs Milestone 3.4

Socio-Cultural Valuation (SCV) of Ecosystem Services

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Introduction

This paper follows the format of another ‘Discussion Paper’ produced for WP 3.5 (Milestone 3.5) authored by *Astrid van Teeffelen, Anita Bayer, Almut Arneth, Peter Verburg*. In this regard this paper sets out a proposed research plan for Task 3.2 and outputs for the ‘Resource Hub’ under this task. It is considered a working document and feedback from our partners in Task 3.2 would be welcomed.

In addition the paper provides a review of some of the issues emerging from the literature on the assessment of socio-cultural values and on valuation methodologies. The purpose of this part of the paper is to familiarise the SCV Exemplars with some of the emerging concepts of socio-cultural values and to prompt discussion on the development of the methodological framework for WP 3.2.

1. Main research avenues addressed in OPERAs WP3.2 :

- Examination of theoretical framework of perceptions value (philosophical, sociological, economic) and context for socio-cultural value
- Review of typologies with affinity to socio-cultural values and draw out emerging typological framework
- Review and critique methodologies for the assessment of values - economic and non-economic and other methodologies, particularly indicators of values
- Devise, apply, demonstrate and refine methodologies for socio-cultural valuation of ESS at three different Exemplar sites and in one common testing ground in Scotland
- Analyze the synergies and complementarities between different socio-cultural valuation methodologies tested separately and in the common testing ground
- Review, contrast and analyse the different socio-cultural values emerging at the three different test sites and in the common testing ground.
- Identify issues and challenges of the process
- Devise socio-cultural valuation methodology or modification to existing methodologies and tool kit for use at different types of ES sites
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2. Outputs from Task 3.2 for WP5 Resource Hub [see Task 3.5.3 extract in Appendix]:

- Develop a decision tree (with associated arguments) for socio-cultural valuation within different ESS settings and at different institutional levels (regional, national, local)
- Provide the Resource Hub with briefing papers on different methodologies and reference lists and links to different methodologies

3. Issues emerging from the literature: economic valuation and socio-cultural ESS

Economic valuation

- Economic valuation depends on a particular theory of individual values based on consumer choice, individual utility and trade-offs, concepts which are deficient in terms of capturing some non-monetary, social and societal values that cannot be measured in financial terms.
- Economic valuation theory cannot evaluate on how values are formed by people and social groups. The theoretical basis for value formation is more likely to be found in psychological and sociological literature.
- While the characteristics of *cultural* values within the ES typology is well understood (and there is an emerging body of literature on this (Chan et al, 2012, Daniel et al, 2012) and on techniques to assess cultural values, particularly for recreation and tourism and aesthetics, there is an absence of literature on the broad characteristics of *socio-cultural values* as they apply to ecosystem services.
- There are a range of deliberative and qualitative methods available to examine individual and collective values and these have in the past been used to complement economic valuation methods but they have not as yet developed as an integral part of economic valuation.
- There are three recognized dimensions to environment-human relations: utility, ethics and aesthetics (O'Neill, 1993; Sagoff, 2004). Socio-cultural values extend beyond *cultural services* as we know them within the ES typology and can be conceived as societal or shared values connected to particular ESS and interaction (experience) with the environment.
- From a psychological perspective *context* is a key driver of the formation of values (ethical beliefs and aesthetical judgments; time and past experience (Gowdy and Mayumi, 2001)) in contrast, economics assumes (for consistency) that values are ready-made and consumers conform uniformly without reference to context specific socio-cultural norms.
- Stated Preference methods such as Contingent Valuation methods which use Willingness to Pay (WTP) as a measure for valuation of environmental services are at variance to actual WTP as true values are subject to biases that can skew results. Individuals may in fact value losses at a higher level than gains received by making payments for services (loss aversion).
- Individual's psychological attachment to their existing endowment may result in values for social or cultural environment being higher than the utility of a particular good ('endowment effect').
- Psychologists propose that there is a human hierarchy of wants that is not reducible to a linear ordering of preferences (Gorgescu-Roegen, 1982) and respondents often refuse to make tradeoffs because some values are non-compensatory contrary to consumer choice theory.
- Ethical motivations can override the personal utility and can be reflected in the social value people place on public goods
- Total Economic Valuation (TEV) within economic valuation can capture both direct and indirect values and may be used to capture non-use socio-cultural values associated with utility values of ESS.
- Subjective values are not sufficient on their own to value ES and do not fully take account of the objective qualities of the ecosystem, the biophysical characteristics of it and the vital need for

resilience of the system. Ecosystem services are, or can be perceived, as being “lumpy” and cannot be distinguished as marginal units (Sagoff, 1994).

- Ostrom (2009) proposes that socioecological approach combining analysis of biophysical systems and their governance (i.e. social) systems –a complex systems approach.

Socio-cultural ESS

- Cultural ESS are defined in the MA as “the non-material benefits people obtain from ecosystems through *spiritual* enrichment, *cognitive* development, reflection, *recreation* and *aesthetic experience* including *knowledge* systems, *social* relations and *aesthetic values*” . The MA also includes the role of *cultural heritage* and *sense of place* within this category.
- The MA did not define *socio-cultural values* but the literature on cultural services has expanded the scope of the definition to include *way of life* (Chan et al, 2012) and include the *settings* in which interaction with ESS occur (Church et al, 2012).
- There has been little study on the link between ESS and spiritual values, cultural identity, social cohesion, heritage or human well-being or quality of life (Hernandez-Morcillo et al 2013) with no development of definitions or conceptual frameworks for these values.
- There is a call within the literature for a more socio-ecological approach to ES research to understand multi-causality (the influence of social, biophysical and socioecological) of values, the roles of rights and distribution, plural values (where ESS are valued for different reasons) and collective values.
- Church et al 2012 (UK National Ecosystem Assessment) proposes a more interpretative social science analysis of ecosystem services. Drawing on work by Max-Neef (1989, 1992) (Human Scale Development Matrix (HS-DM)), socio-cultural values should consider ‘needs’ rather than ‘wants’ as being the lens through which valuation should take place. It is possible to identify trade-offs between value needs within this framework:
 - Being:** personal or collective attributes – health, self-esteem, adaptability etc..
 - Having:** institutional norms necessary for society to function
 - Doing:** personal or collective
 - Interacting:** interaction with built, natural and technological settings
- Many environmental goods are also *public goods* with which there is no particular ownership and thus values are collectively held as shared values. The management of ecosystems services as *public goods* however cannot be considered without taking account of property rights (Kumar and Kumar, 2008). Consideration of the value of ESS as public goods (beyond direct use value) is one that is important to pursue given that the objectives of institutional management of ESS is to ensure protection of the current and future public good benefits of ESS to society. The institutional arrangements set out the *de-facto* rights and shape the socio-cultural setting and interaction of people with ESS.
- Social capital associated with ESS could also be included as a component of *socio-cultural values typology*

Appendix

Sub task 3.5.3 Novel assessment methods reconciling the functional, monetary and social values of ES/NC (VU-IVM, KIT, CNRS-LECA, ETH, UCD) - We will synthesize the strengths and weaknesses of the alternative perspectives (T3.1-8) to operationalise the ES/NC approach. Based on the conceptual and causal linkages between biodiversity, ecosystem functioning, monetary and social values the differences in the operational potential of the different perspectives will be analysed. We will develop a decision tree (and associated arguments) for the applicability of the different perspectives for inclusion in the 'Resource Hub' that fits within social and institutional structures and governance. Assessments of the monetary costs of optimizing the social value of ES provision, or of short-term effects of ecosystem management decisions on monetary or social value will be compared to those considering long term functioning of the ecosystem. The approach will analyse the conflicts and convergence of social, monetary and ecosystem based perspectives for ES provisioning. The new methods will be developed and tested alongside the OPERAS exemplars to test their applicability and will feed the development of information and decision support instruments in T4.3

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