



An exploration of the relationships between cultural ecosystem services, socio-cultural values and well-being



Craig Bullock^{a,*}, Deirdre Joyce^b, Marcus Collier^c

^aSchool of Architecture, Planning and Environmental Policy, University College Dublin, Belfield, Dublin 4, Ireland

^bSchool of Architecture, Planning and Environmental Policy, University College Dublin, Ireland

^cTCD School of Natural Sciences, Trinity College Dublin, Ireland

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ABSTRACT

Although there is a growing literature on cultural ecosystem services, their relationship with well-being is still being explored. This paper reports on the application of a combination of deliberative and instrumental approaches to a coastal environment. The experience supports the ecosystem services approach and confirms the role of cultural services in providing for material as well as non-material benefits, but finds that the potential contribution to quality of life is often held-back by inadequate infrastructure provision compounded by human-induced environmental impacts and failures to mitigate these. The application revealed that stakeholders are knowledgeable on facilities and local impacts and are most comfortable when discussing the natural environment in these terms. We argue that, if stakeholders are introduced to the concept of ecosystem services, these insights can be combined with local knowledge to strengthen communities' ability to work with the responsible authorities to achieve improved environment quality and management.

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1. Introduction

The Millennium Ecosystem Assessment (MA) introduced a conceptual framework in 2005 to demonstrate the ways in which the natural environment and human well-being are interconnected through ecosystem services. Of the four ecosystem service types included in the framework, a role for cultural ecosystem services was identified to encompass the non-material benefits that people obtain from ecosystems. Amongst these cultural services, the MA identified benefits from spiritual enrichment, cognitive development and direct use benefits in the form of recreation and amenity. As such, cultural ecosystem services include a range of benefit types, although in practice, our limited understanding of the influence of cultural services on well-being has largely restricted the discussion to recreation, amenity or aesthetic elements (Fish, 2011). This was acknowledged by Chan et al. (2012) who described cultural ecosystem services as having been neglected relative to ecological processes despite their evident importance to people. They argued that little research had been undertaken that explic-

itly aimed to identify what it is that is important to people and to communicate this information to decision makers.

Various toolkits or applications, for example InVest (Tallis and Et, 2013) and ARIES (Bagstad and Al, 2011), have been produced to allow resource users or decision makers to identify and assess the contribution of ecosystem services and to manage these at a practical level, for example to protect physical aspects of health and well-being by informing nature-based solutions to the management of water quality, flooding, or soil erosion, etc. However, it is still debateable how far research has improved decision makers' understanding of the relationship between ecosystem services and the more personal aspects of wellbeing. Fish (2011), for example, drew attention to the limited sophistication of the notion of cultural ecosystem services and of their ability to explain the relationship between the natural environment and quality of life. He remarked on the considerable multidisciplinary literature that already exists on factors which affect well-being and quality of life, adding that by appearing to emphasise the link between ecosystem services and culture to the omission of other evidently important factors, the notion of cultural ecosystem services is in danger of "over-reaching itself" (Fish, 2011, p674). Gaps in our understanding of shared, plural and cultural values were addressed in the Special Issue of Ecosystem Services (21, 2016) which contained 14 papers based on work connected to the follow-up phase of the

* Corresponding author.

E-mail addresses: Craig.bullock@ucd.ie (C. Bullock), deirdre.joyce@ucdconnect.ie (D. Joyce), Marcus.collier@tcd.ie (M. Collier).

UK National Ecosystem Assessment. In one of these papers, Kenter et al. (2016) propose a Deliberative Value Formation (DVF) model that commences with a discussion of core transcendental values and exposes these to a participatory process of value formation to arrive at more informed contextual values for ecosystem services. This approach is complemented by a conceptual framework for cultural ecosystem services proposed by Fish et al. (2016b) which identifies an interaction between environmental spaces and cultural practices that provides the basis for material as well as non-material benefits. This framework is, in turn, supported by a paper by Bryce et al. (2016) which examines the relationship between environmental spaces and subjective well-being.

To contribute to the ongoing debate on cultural ecosystem services, the present paper reports on work undertaken prior to the Special Issue, but which broadly conforms to the same approach and which can be interpreted in terms of the proposed conceptual framework. We explore some of the relationships between socio-cultural values and ecosystem services through a plural or mixed methods approach that included group-based deliberation, semi-structured interviews and analytical techniques. In Section 2 we seek to describe the nature of socio-cultural values and the relationship between these values, quality of life and ecosystem services. In Section 3 we outline a methodology for exploring these relationships and its application to the case study in a coastal environment in Ireland. In Section 4 we discuss some of the results of the approaches applied and describe how we sought to explore the wider applicability of the initial findings using factor analysis based on a larger scale postal survey. In Section 5 we summarise the outcomes and their relevance for future work and conclude in Section 6.

2. Values, quality of life and ecosystem services

2.1. Socio-cultural values

In recent years, there have been a series of papers that have discussed socio-cultural values or perspectives on nature (e.g. Chiesura and de Groot, 2003; Mackenzie, 2012; Scholte et al., 2014; Iniesta-Arandia et al., 2014). The term is not universally popular. In the editorial of the Special Issue, Kenter (2016) objects to the use of the term socio-cultural values to describe non-monetary values and to socio-cultural valuation as an unnecessary parallel approach to economic valuation, arguing that this overlooks the contribution that an understanding of shared or plural values can make to deliberative monetary valuation (DMV). Often values are described in the literature as being social or cultural. By using the term socio-cultural we are acknowledging the role of context and culture in determining the value placed on the environment, or other domains such as community. In this paper, we discuss socio-cultural values, not as a new theoretical conceptualisation, but to represent those values that coalesce around the three commonly identified dimensions of human-nature relationships, namely utility, aesthetics and ethics (O'Neill, 1993; Church et al., 2011; Diaz et al., 2014). Consequently, we use the term, not as an alternative set of new values, but rather to emphasise the existence of a range of plural values that include eudaimonistic perspectives on what we believe to constitute the good life, and deontological principles of fairness and the rights of others (including nature), as well as instrumental values related to utility (see Jax, 2013). These values are a product of the cultural and social context in which we live and are articulated in our behavioural norms and beliefs. A collective examination of these plural values has the capacity to throw light on the relationship between ecosystem services, well-being and quality of life, independent of an input to DMV.

2.2. Socio-cultural values and quality of life

Research into the factors that support well-being and quality of life is well-established and contributions have been made by various disciplines. Whereas initially the focus was on objective indicators such as income, employment, housing and education, this research has extended into the use of social indicators such as social connections or family life (e.g. Bauer, 1966). Connections have been described between well-being and the fulfilment of a range of basic or instrumental needs (Doyal and Gough, 1991; Streeten et al., 1981; Delgado et al., 2013) or the capabilities to realise certain valued outcomes (Sen, 1985, 1995). In the 'hierarchy of needs' (Maslow, 1954), fundamental human needs form the base of a pyramid above which there are relationships between a range of higher human needs culminating in self-actualisation (fulfilment). Alternatively, a non-hierarchical system of needs is presented in the 'human scale development approach' (Max Neef, 1989, 1991) based around the existential needs of *Being Having, Doing and Inter-acting* along with axiological needs such as subsistence, protection and affection.

Within these approaches it is not difficult to identify a role for ecosystem services as 'needs satisfiers' (King et al., 2014). For instance, provisioning ecosystem services meet people's primary needs for food and shelter. Regulating services provide for human health. Cultural services support higher personal or psychological needs. Indeed, there is universal acknowledgement of the direct and indirect positive contribution that the natural environment has on objective indices of quality of life, such as physical and mental health. This extends to the role of a clean environment, attractive countryside and biodiversity in people's choice of where to live or spend their spare time (Ferreira and Moro, 2013; Khan and Juster, 2002).

There continues to be considerable debate on the relevant measures of well-being and the values on which these are based (Jordan and Russell, 2014; King et al., 2014). People's expression of their own *subjective well-being* is one such approach (Campbell, 1976; Diener, 2012; Ryff and Keyes, 1995). This confirms that the influences on well-being are both dynamic and plural or multidimensional, as well as being person and culturally specific (King et al., 2014). The relative pull of personal motivations and social consciousness is a feature of the Human Value Scale developed by Schwartz (1992) and conforms to the respective behavioural arguments of neoclassical economics and other disciplines.

However, despite recent studies showing a positive link between ecosystem services and well-being (Engelbrecht, 2009; Summers et al., 2012; Vemuri and Costanza, 2006; Yang et al., 2013; Russell et al., 2013; Delgado and Marin, 2016), the link with cultural ecosystem services remains poorly understood, both cause and effect, and the proportional contribution (Busch et al., 2011; Carpenter et al., 2009; Maltby and Acreman, 2011; Bryce et al., 2016). Ecosystem services on their own are not a sufficient guarantee of well-being (Carnfield and Guillen-Roya, 2010). There is also the influence of factors which support engagement with the natural environment, such cultural relationships with the outdoors, socio-demographics and climate (Martinez-Jaurez et al., 2015). However, recent work demonstrates a strong link between the natural environment and psychological well-being, including sense of self, perceived health, cognitive restoration, relief from stress and social relationships (Willis, 2015). How does this role of ecosystem services compare with other aspects that are important in our lives such as belonging, family relationships, social networks, employment or physical health?

Many of these relationships are non-material as described by the MA. However, building on the role of the ecosystem in providing settings or spaces for cultural services (Church et al., 2011),

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