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# Most of nature: A framework to resolve the twin dilemmas of the decline of nature and rural communities

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## ABSTRACT

Recognition of the interrelationships between the global loss of nature and collapse of rural communities is essential. Compartmentalising or ignoring the diversity of stakeholder perspectives, policy objectives, and the complexity of nature has not worked. We must improve all natural and human capital to address the growing problems. Progressing environmental and development policies in isolation diminishes policy effectiveness, polarises communities by engendering dislocation, fear and conflict, and leads to ineffectual or deleterious natural and rural systems management. Conservation and rural policy can be recast to a new rural–urban dynamic: progressing from food and fibre production with little regard for externalities to one of food, fibre and sustainable natural and rural systems. We propose a conceptual framework based on the interdependence of humans and nature that recognises multiple forms of capital, and their role in environmental management and community development. Specifically, the ‘forms of capital’ framework directs attention to the transformational properties of different forms of capital and to the deterministic socio-economic and political drivers of change. Integrating system governance and stewardship, in conjunction with coordinated, self-adapting processes of research, planning, monitoring and system evaluation, offers a means of improving sustainable management of the complex inter-relationships between people and nature.

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## 1. Introduction

Landscape functions and rural communities are connected, but while the debate about the relationship between nature and humans continues (e.g. Costanza, 1996; Redford and Sanderson, 2000; Turner et al., 2004; Polasky et al., 2005; Allen, 2006; Adams and Hutton, 2007), their inter-connected functions are failing and biodiversity is declining (Hanski, 2005; ASEC, 2006). The pathology of command and control in conservation (Holling and Meffe, 1996) led to recognition of the need to integrate people and nature in sustainable ecosystem and landscape management (Briggs, 2003). However, the problem of divergent, sometimes counterproductive,

priorities and management objectives remains (Igoe, 2006), encapsulated in three current debates about sustainability.

The first debate revolves around the assertion that societies fail when their environmental bases collapse through over-population and resource depletion, with allied breakdowns of socio-cultural and economic systems (Wright, 2004; Diamond, 2005). Many rural societies see triple bottom line sustainability as a first-world urban imposition, whereas first-world urban people tend to see rural sustainability and biodiversity preservation as a necessity that must be imposed on people in rural environments and developing countries.

A second debate involves context and responsibility. While many rural communities have a strong commitment to sustaining natural ecosystems and processes, they are often

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forced by the circumstances that arise from global economic competition and trade to draw down on natural capital. Extreme climatic events also force societies who value sensitive habitats (e.g. wetlands) for aesthetic, biological diversity or intrinsic reasons to utilise them for economic reasons (Seymour et al., 2010).

The third debate involves conservation priorities and human futures in natural settings. Doremus (2002) argued for ‘saving the ordinary’ in nature, but building political support to limit human actions through regional governance, without emphasising special places, is difficult. International conservation organisations have been called on to de-emphasise fund-raising around iconic species and places, in favour of programmes addressing both biological and human diversity. Asset-based approaches overlook the large-scale biophysical processes and socio-cultural capital necessary to ensure long-term environmental management (Curtis and Lefroy, 2010), but the issue of ongoing inhabitation of protected areas by indigenous communities is controversial (Chapin, 2004; Phan, 2007).

While Adams et al. (2004) suggested that it is premature to abandon attempts to combine conservation and development, there is a pressing need to translate comprehension into policy (Terborgh, 2005). Accordingly, conservation professionals need to engage with practitioners in community development, environmental policy and management.

In Australia, a major policy experiment combining regional and environmental concerns (NHT, 2000) has been underway for 20 years<sup>1</sup>. Decentralised regionalism has been questioned however on the grounds of regional definition, exercise of power, issues of accountability, conflicts between democracy and technocracy, and the potential for pernicious outcomes (Lane et al., 2004). The approach has suffered from constant changes in policy and management orientation which – while potentially increasing local capacity and accommodating varying perspectives – has resulted in stakeholder confusion, resentment and programme alienation (Compton et al., 2006, 2009).

At a conceptual level, disciplinary reductionist science is being augmented by a new paradigm that is holistic, socially distributed, application-oriented, trans-disciplinary, and subject to multiple accountabilities. This shift to application-driven science (Gibbons et al., 1994) and increasing awareness of ecosystem complexity, dynamic disequilibrium and chaos (Walker, 1995; Walker and Salt, 2006; Harris, 2007) is significant, but both paradigms have failed to address global trends of declining biodiversity, water and soil degradation, and socio-economic collapse of many rural communities.

We progress these dialogues by discussing the place of humans in nature and approaches to environmental management. Sustainable conservation needs systematic assessments of values from multiple perspectives; to encompass environmental complexity by accommodating variable condition and states, environmental processes and dynamism; to embed human economies within ecological economies and exigencies; and to invest in the multiple forms of capital (Callicott et al., 1999; Curtis and Lefroy,

2010). We propose a conceptual framework to reorient discussion of rural and environmental sustainability around the interdependence of humans and nature, the multiple forms of capital, their transformational properties, and a model for improved environmental management and community development.

## 2. Causes of socio-cultural and ecological dysfunction

### 2.1. *The dominant species?*

Our ability to shape the niches and habitats of other species has led to extinction, super-abundance and vulnerability; sometimes knowingly and sometimes as unexpected outcomes. By moving species across and between landscapes, we have changed the compositions of ecological communities, while our engineering of land, seas and atmosphere has changed biological and physico-chemical balances, and hence nature’s possibilities (Odling-Smee et al., 2003). Selective breeding and genetic manipulation creates a speculative future. Yet our understanding of nature is often one-dimensional, temporally static, and shuns complexity (Harris, 2007). Attitudes are determined by our circumstances, values and beliefs, which are often unstated (Gleeson et al., 2006) and often the perspective of a relative few.

The growing human–environmental problems were ascribed by Bennett (1976) to the commodification of nature and the divorce of society from nature. He concluded that remedies must be found within the social system. Thirty years later, his message remains relevant; the reversal of human impacts is expensive or impossible, threats remain or are increasing in almost all ecosystems, even in so-called wildernesses (Botkin, 1990; Beeton, 2010), and ecosystem management is failing to address the complexity, hierarchy, dynamism and non-equilibrium aspects of environments (Wallington et al., 2005; Harris, 2007). Reactive, single-issue command and control responses prevail that fail to reflect the complexity of the environmental, economic and social contexts and the importance of long-term environmental and social sustainability. Moreover, environmental and social externalities receive only patchy recognition in economic and legal systems, and are undervalued in development and economic assessments (Bowers, 1997). The costs of agricultural externalities are often neglected, their impacts diffuse or delayed so that sources are difficult to identify, and the impacted groups often have limited political or decision-making capacity (Pretty, 2008).

### 2.2. *Changing cultural perspectives*

For 99% of human history, people lived as hunter-gatherers intimately involved with other organisms and dependent on experiential knowledge of natural history. However, the resultant body of learned rules about the natural world has been erased (Wilson, 1996) and, in the pursuit of increased agricultural productivity, we disconnected from nature (Pretty, 2002). Many modern forms of cultural change are perverse, reflecting a ‘compositionalist’ perspective (Callicott et al.,

<sup>1</sup> The decade of Landcare followed by the National Heritage Trust and now Caring for Our Country.

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