



**Rethinking environmental leadership: the social construction of leaders and leadership
in discourses of ecological crisis, development and conservation**

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Abstract

Leadership is heralded as being critical to addressing the ‘crisis of governance’ facing the Earth’s natural systems. While political, economic and corporate discourses of leadership have been widely and critically interrogated, narratives of environmental leadership remain relatively neglected in the academic literature. The aims of this paper are twofold. Firstly, to highlight the centrality and importance of environmental science’s construction and mobilization of leadership discourse. Secondly, to offer a critical analysis of environmental sciences’ deployment of leadership theory and constructs. The authors build on a review of leadership research in environmental science that reveals how leadership is conceptualised and analysed in this field of study. It is argued that environmental leadership research reflects rather narrow framings of leadership. An analytical typology proposed by Keith Grint is employed to demonstrate how any singular framing of environmental leadership as *person, position, process, result or purpose* is problematic and needs to be supplanted by a pluralistic view. The paper concludes by highlighting key areas for improvement in environmental leadership research, with emphasis on how a political ecology of environmental crisis narratives contributes to a more critical body of research on leadership in environmental science.

Keywords

Environmental Leadership; Leadership Discourse; Nature; Ecological Crisis; Governance, Conservation; Development; Political Ecology

Introduction

Scientific literature and popular media increasingly refer to environmental crises of one sort or another. Consider, for example: ‘dangerous climate change’ (Eraut & Segnit, 2006; Stafford-Smith et al., 2011); the biodiversity crisis (Myers, 1996; Tittensor, 2014) and the fisheries crisis (Pauly et al., 2002; Bellwood et al., 2004; Gershwin, 2013). These crises and their imagined consequences are linked rhetorically, in both lay and professional discourses, to threats to human wellbeing. An executive summary of the Millennium Ecosystem Assessment titled ‘Living beyond our means’ concludes that: “Humans have made unprecedented changes to ecosystems in recent decades to meet growing demands for food, fresh water, fiber, and energy... The pressures on ecosystems will increase globally in coming decades unless human attitudes and actions change” (2005: 3). Such apocalyptic language is characteristic of the construal of crises that posits the challenging, if not catastrophic, effects and consequences which will manifest in both local and global systems (Rockstrom et al., 2009). Furthermore, studies of environmental decline invoke the language of complexity theory to suggest that these systems will not necessarily be characterized by linear, reversible change (gradual or rapid) but by abrupt, non-linear, and potentially calamitous ruptures (Steffen et al., 2011).

Leadership is increasingly heralded as critical to addressing the ‘crisis of governance’ (Young et al., 2007) facing the Earth’s natural systems (Scheffer et al., 2003; Westley et al., 2011). Scheffer et al., (2003: 493) draw on Gladwell’s (2000) popularist notion of opinion tipping points to propose that an ‘exceptional few’ can catalyse “earlier opinion shifts, reducing the time lag between [environmental] problem and solution”. Yet, many have argued that global political leadership has prioritized economic development and failed to deliver on sustainability policy, despite early progress with the Rio Declaration, Agenda 21, and the Kyoto protocol in the 1990s (Monbiot, 2012). In response, it is suggested that social change must come from the grassroots and indeed many countries, regions, and communities are forging their own paths forward (Ostrom, 2012). Understanding the role of political and other forms of leadership in these processes at sub-national levels and the outcomes for regional sustainable development is an important research focus in environmental sciences. Yet, while political, economic and corporate discourses of leadership have been widely (and critically) interrogated, narratives of environmental leadership remain relatively neglected in the academic literature. In this paper we apply a political ecology lens to narratives of environmental crisis to highlight the limitations, state-of-art, and future opportunities for environmental leadership research.

The specific contributions of this paper are therefore twofold. Firstly, we intend to highlight the centrality and importance of environmental science’s construction¹ and mobilization of leadership discourse. This is important insofar as both popular and professional understanding of environmental crises is informed significantly by concepts hailing from this discipline. Environmental issues have certainly been an emerging focus of interest in organization and leadership studies (see, *inter alia*, contributions to the special issues of *Business and Society*, 2012, *Organization Studies*, 2012, and *Organization*, 2013; Banerjee, 2003; Böhm et al., 2012; Goodall, 2008; Le Menestrel et al., 2002; Levy and Egan, 2003; Marshall et al., 2011; Nyberg, 2013; Okereke, 2012; Wittneben et al., 2012; Wright et al., 2013). However, to the best of our knowledge, scholars in this field have not, as yet, interrogated the ways in which leadership phenomena are approached

and understood *within the environmental science community*. Our first aim is to remedy this deficit by examining how environmental scientists conceptualise and analyse leaders and leadership. As such, our analysis focuses on leadership within a broad policy context rather than of a pre-defined, singular organization such as a conservation or resource management agency. Secondly, drawing on political ecology and Grint's leadership typology, we offer an explicitly *critical analysis* of environmental sciences' deployment of leadership theory and constructs. As such, both our critique and the theoretical and methodological conclusions we reach may be of interest to environmental scientists with either a direct or indirect interest in leadership studies.

In pursuit of our aims, we expand arguments from our recent publication in the environmental sciences field (Evans et al., 2015). Here, we use Grint's (2005) leadership typology, as extended by Case (2013), to structure and elaborate on our findings. As we detail below, our review revealed that research in environmental leadership often reflects what we take to be rather naïve and narrow framings of leadership in the management sciences. Using a political ecology approach, we frame and contextualise these arguments in terms of environmental decline as crisis. We focus on the important sub-field of integrated conservation and development to emphasise how singular framings of environmental leadership as person, position, process, result, or purpose fail to capture and reconcile the dual societal objectives espoused in *conservation* and *development* and broader notions of sustainable development.

Typical unitarist and leader-centric conceptions of leadership, we contend, need to be supplanted by more complex, rounded and nuanced *interpretations of leadership practices* which are sensitive to cultural contexts, plural perspectives and contestation. We conclude by offering some insight into how leadership research informed by the critical turn in leadership studies combined with an understanding of environmental crises informed by political ecology can offer new opportunities for enhancing more critical analysis of environmental leadership.

Analytical frameworks and approach

Political ecology

Political ecology is a diverse and loosely-defined analytical approach (e.g. Robbins 2004: 15-16). One commonly used definition is that it 'combines the concerns of ecology and a broadly defined political economy' (Blaikie and Brookfield 1987: 17). In the context of this paper, its roots in poststructuralism are of most interest. Informed by Foucault's insights on power, knowledge and discourse, a political ecology lens challenges analysts to consider how social stratification, knowledge and power influence the way in which people relate to their environment (Peet and Watts, 1996). Not only are the material outcomes of sustainable development negotiated by different groups but also the way in which sustainability and environmental change issues are represented is also strongly contested. Leadership is a powerful symbol that has the potential to mobilize forms of agency in such struggles.

Environmental change has direct and indisputable socio-material consequences for those experiencing declining resources or extreme events such as cyclones, flooding, and bush fires. Yet, political ecology also highlights the way in which environmental change is socially framed, or constructed, through discursive acts (Peet and Watts, 1996; Bryant and Bailey, 1997; Zimmerer

and Basset, 2003). Adopting this social constructionist (as opposed to positivist or realist) epistemological position has important implications for how environmental change and crisis is to be *interpreted, represented* and *understood* and, moreover, how societies, groups and individuals are positioned in this discourse.

Forsyth (2003) explains, for example, how the articulation of environmental change as ‘crisis’ can mask the complexity of biophysical processes and the uncertainty around trends, causes and outcomes of environmental change. He outlines how social and political framings produce orthodox explanations of the causes and solutions of environmental problems, articulated as singular processes of deforestation and desertification, for example. Dominant framings include: opposition to modernity, the loss of wilderness and tradition, and the domination of nature. Giddens (1994 in Forsyth, 2003) suggests that the dissolution of nature as an object independent of human influence and the loss of balance, wilderness and tradition under modernity are constructed as ecological crises.

Forsyth (2003) argues that environmental orthodoxies can obscure more accurate understandings of the biophysical processes of environmental change and the anthropogenic drivers of change. More importantly, he suggests that environmental orthodoxies can result in policies that unfairly penalise resource users, particularly in developing countries or poor communities, and may even exacerbate environmental degradation. These orthodoxies are most problematic where they are removed from a particular context and applied generally to environmental decline in other places:

“Concepts such as desertification, soil erosion, and deforestation have clearly been associated with severe environmental problems within particular contexts. Yet, used universally and uncritically, these concepts may actually undermine both environmental management and social development by adopting simplistic approaches to the causes of biophysical change...” (2003: 36).

By defining the array of real conflicts between distinct interest groups as a single crisis, narratives of environmental crisis tend to propose and impose singular solutions, and consequently silence different perspectives on how to address environmental change (Rocheleau et al., 1995). The implied consensus and urgency of crisis narratives can lead to the prioritisation of scientific knowledge and external expertise over local ecological knowledge, priorities and action (Forsyth, 2003; see also Fairhead and Leach 1995; Roe, 1995; Adger et al., 2001). By extension, crisis narratives may also be used to justify westernized and/or centralised forms of agency and authority that, in turn, are often themselves recovered and legitimated in terms of a language of leadership – for instance, a leadership deficit or the need for strong global and local leadership.

Integrated conservation and development

To contrast and problematize the implied consensus of environmental crisis narratives we embed our analysis of environmental leadership within integrated conservation and development. As a sub-field within environmental science, integrated conservation and development aims to account for the dual societal objectives of improving social wellbeing through development and protecting biodiversity and environmental processes. Like the broader notion of sustainable development it entails living with compromise: managing a balancing act between divergent but equally potent

sets of societal motives and objectives (Redclift, 2005). For instance, objectives can include biodiversity protection, food security, poverty reduction, climate change adaptation and energy production, among many others. Partly because it aims to reconcile multiple objectives, successfully integrating conservation and development motives has been an elusive aim of environmental management for over 30 years (Brown, 2002; 2003). While the term emerged to describe the consideration of local livelihoods in protected area planning, many governance approaches including adaptive co-management, ecosystem-based management, and integrated area management consider both the social and biophysical dimensions of environmental change and can be considered under this broad umbrella term. We invoke it here to define a sub-field in which tensions between biodiversity protection and aspirations to improve economic and social wellbeing play out with respect to environmental governance. In doing so, we attempt to highlight how leadership of integrated conservation and development can be experienced and understood in different ways by different people, an idea which is not necessarily captured, currently, by environmental crisis narratives or popular means of analysing environmental leadership in the field.

Ways of framing leadership

To structure our analysis of environmental leadership we borrow a framework from contemporary leadership studies within the management sciences. Although still dominated by mainstream positivist lines of enquiry, various heterodox approaches to the study of leadership are emerging². In place of positivist positions that aim to distil the fundamental laws of leadership, for example, Grint (2001; 2005) offers an analytical heuristic to better understand the manner in which leadership phenomena are *constructed* in any given social, organizational, or institutional field at any particular time. For Grint (2005, *pace* Gallie, 1955/56), leadership is an ‘essentially contested concept’ which will eternally and irrevocably frustrate any attempt by researchers to nail-it-down in definitional terms. Through the study of narrative accounts of leaders and leadership, Grint (2005) demonstrates that these definitional terms can be constituted sociologically in terms of *who* a person is (their personal traits, attributes, competencies, etc.), the position they hold (*where*), the processes employed to effect an outcome (*how*) and the results they achieve (*what*). As Case (2013) articulates, leaders are also often described as supplying vision or meaning. Case (2013) extends Grint’s grammar to incorporate the purpose, or *why*, of leadership. This heuristic can be used to interrogate the way in which environmental leadership is understood and socially constructed by environmental science research communities.

By populating Grint’s framework, including Case’s extension, with examples from the environmental sciences we aim to highlight how singular framings of leadership become problematic in the context of integrated conservation and development (as our analytical converse to environmental crisis narratives). Our aim is not to dismiss particular ways of understanding leadership but to highlight that a much broader conceptual and analytical platform is available, which would enhance leadership research in environmental science. As our analysis will seek to demonstrate, constructions of leadership within environmental science tend to be highly leader-centric in the main. Although Grint’s typology might be viewed as introducing a kind of *grammar* to leadership studies (Case, 2013) – one that shifts attention away from ‘leaders’ per se and toward ‘leadership’ (as process, for example) – the environmental studies we examined almost invariably point back to ‘leaders’ or over-simplify the contested nature of leadership and its social-

environmental objectives, whatever dimension of leadership is being considered. There is thus an urgent need, we contend, for environmental science to embrace less leader-centric and implicitly ideological conceptions of leadership practices and processes, particularly as we move away from this notion of singular, shared experiences of environmental crisis.

Research approach

We conducted a systematic search of research on leadership in environmental science over the last ten years on ISI Web of Science (see also Evans et al., 2015)³. We focused on conservation, natural resource management, and governance of social-ecological systems. As we are interested in the domains of environmental policy and practice we used exclusionary search terms to exclude literature on corporate⁴, scientific, agricultural, technological or infrastructure-related leadership. These terms were derived inductively as we scanned search results. Many examples did not relate to the natural environment, or focused on individual organizations without linking to policy or practice. Through a scan of abstracts we also excluded papers where leaders or leadership were not a focus of the research itself, for instance, leaders were: referred to in setting up the paper’s argument (e.g., Australia is a leader in marine conservation); considered as research end-users (e.g., leaders should take X into account), or; sampled as part of a study on other topics. The remaining papers (n=187) comprised synthesis and reviews, meta-analyses, quantitative large-N studies, and empirical case-studies. To select papers for analysis we read and summarised all 187 abstracts. Based on these summaries, we included all the synthesis and review papers (n = 24), all the meta-analyses and large-N studies (n = 8), and a sub-set of case-studies from major environmental fields (conservation, fisheries, forestry, and water)⁵ (n = 25). We chose case-studies that represented a diversity of perspectives on leadership across different environmental fields and countries (Table 1). In total we reviewed 57 papers (Appendix 1). Our intention was to get a sense of how leadership was conceptualised across the environmental sciences; not to definitively categorise or meta-analyse this field. The arguments we develop in this paper emerge from our reading of the environmental leadership literature, our knowledge of political ecology and critiques of ‘environmentalism’, and our own diverse experiences of empirical and applied research in environmental governance in developing countries.

Table 1: Details of the environmental focus and geographical spread of cases included in our analysis of environmental leadership. We categorised the main environmental focus of all 57 papers reviewed, or counted them as ‘mixed’ natural resource management. We also documented the geographical focus of all the papers. As some papers had more than one country focus the total in this column is more than 57.

| Environmental focus | Country focus |
|---|--|
| References | References |
| Total number of papers 57 | Total number of sites 75 |
| <i>8 Biodiversity conservation</i> Zimmerer et al. 2004; Morgan 2007; Manolis et al. 2008; Wale et al. 2009; Black et al. 2011; Kenwood et al. 2011; Lockwood et al. 2012; Rosen and Olsson 2013 | <i>11 Global</i> Zimmerer et al. 2004; Ruttan 2006; Pagdee et al. 2006; Walters 2007; Wale et al. 2009; Gruber 2010; Meijerink and Huitema 2010; Van Laerhoven 2010; Gutierrez et al. 2011; |

| | |
|--|--|
| <p><i>6 Climate Change</i> Gupta 2010; Gupta et al. 2010; Scholten 2010; Burch 2011; Kates et al. 2012; Lansing 2012</p> <p><i>9 Natural resource management: Fisheries</i> Walters 2007; Chuenpagdee and Jentoft 2007; Bodin and Crona, 2008; Njaya 2009; Gutierrez et al. 2011; Russell and Dobson 2011; Cinner et al. 2012; Njaya et al. 2012; Marin et al. 2012</p> <p><i>7 Natural resource management: Forestry</i> Pagdee et al. 2006; Perez-Cirera and Lovett 2006; Zulu 2008; Sudtongkong 2008; Fleischman et al. 2010; Van Laerhoven 2010; Mohammed and Inoue 2012</p> <p><i>6 Natural resource management: Water</i> Pahl-Wostl et al. 2007; Biggs et al. 2010; Huitema and Meijerink 2010; Meijerink and Huitema 2010; Hu 2011; Agyenim and Gupta 2012</p> <p><i>9 Natural resource management: Mixed</i> Adams et al. 2003; Marschke and Berkes 2005; Bodin et al. 2006; Ruttan 2006; Biggs 2008; McKeever 2008; Carruthers and Rodriguez 2009; Pesqué-cela et al. 2009; Gruber 2010</p> <p><i>6 Social-ecological systems</i> Scheffer et al. 2003; Folke et al. 2005; Olsson et al. 2006; Fabricius et al. 2007; Galaz et al. 2011; Hahn 2011</p> <p><i>3 Protected areas</i> Olsson et al. 2008; Christie et al. 2009; Banks and Skilleter 2010</p> <p><i>1 Urban ecosystems</i> Ernstson 2013</p> <p><i>2 Societal collapse</i> Butzer 2012; Butzer and Endfield 2012</p> | <p>Kenwood et al. 2011; Butzer and Endfield 2012</p> <p><i>3 Australasia</i> Olsson et al. 2006; Olsson et al. 2008; Banks and Skilleter 2010</p> <p><i>14 Africa</i> (Egypt, Ethiopia, Ghana, Kenya, Madagascar, Mozambique, Tanzania, Zambia, Malawi, West Africa, South Africa) Chuenpagdee and Jentoft 2007; McKeever 2008; Zulu 2008; Christie et al. 2009; Njaya 2009; Biggs et al. 2010; Russell and Dobson 2011; Agyenim and Gupta 2012; Butzer 2012; Cinner et al. 2012; Kates et al. 2012; Mohammed and Inoue 2012; Njaya et al. 2012; Ernstson 2013</p> <p><i>9 Asia</i> (Cambodia, Malaysia, Nepal; Indonesia, Philippines, Thailand) Marschke and Berkes 2005; Olsson et al. 2006; Chuenpagdee and Jentoft 2007; Biggs 2008; Bodin and Crona 2008; Sudtongkong 2008; Christie et al. 2009; Cinner et al. 2012; Rosen and Olsson 2013</p> <p><i>6 N. America and Hawaii</i> Olsson et al. 2006; Christie et al. 2009; Biggs et al. 2010; Fleischman et al. 2010; Black et al. 2011; Kates et al. 2012</p> <p><i>4 C. and S. America</i> Perez-Cirera and Lovett 2006; Chuenpagdee and Jentoft 2007; Carruthers and Rodriguez 2009; Marin et al. 2012</p> <p><i>2 Caribbean</i> Chuenpagdee and Jentoft 2007; Christie et al. 2009</p> <p><i>2 China</i> Pesqué-cela et al. 2009; Hu 2011</p> |
|--|--|

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|--|---|
| | <p><i>7 Europe</i> (Belgium, France, Germany, Holland, Hungary, Italy, Spain, Sweden, Switzerland, United Kingdom) Olsson et al. 2006; Pahl-Wostl et al. 2007; Biggs et al. 2010; Scholten 2010; Hahn 2011; Kates et al. 2012; Ernstson 2013</p> <p><i>1 Middle East</i> Butzer 2012</p> <p><i>3 Pacific</i> Morgan 2007; Cinner et al. 2012; Rosen and Olsson 2013</p> <p><i>13 Conceptual</i> Adams et al. 2003; Scheffer et al. 2003; Folke et al. 2005; Bodin et al. 2006; Fabricius et al. 2007; Manolis et al. 2008; Gupta 2010; Gupta et al. 2010; Huitema and Meijerink 2010; Burch 2011; Galaz et al. 2011; Lansing 2012; Lockwood et al. 2012</p> |
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Understanding environmental leadership

Leadership as person

According to Grint (2005), the essence of *leadership as person* asks ‘is it *who* you are that determines whether or not you are a leader?’ Resonating with the trait approach, leadership as person seeks to distil the purest behaviours, traits, and characteristics of leadership into a well-honed and refined recipe that is universal in nature. This perspective seems to suggest that only the selected few have such traits and are fit to lead.

Framing leadership as person is common in the environmental sciences. In the literature we reviewed, the quantitative studies attempting to produce widely generalisable conclusions about what leads to successful environmental governance (e.g., large-N studies and meta-analyses) tend to simply capture the presence or absence of a single individual leader at community or group level (Pagdee et al., 2006; Van Laerhoven, 2010; Gutierrez et al., 2011). Yet, it was also common across synthesis, review and qualitative case-study papers to only refer to a small number of individual leaders. This trend is exemplified by calls for ‘conservation leaders’ with specified competencies or traits (Dietz et al., 2004; Manolis et al., 2008; Black et al., 2011), and by the analytical focus on individual social, policy or institutional entrepreneurs or champions in research on social innovation and transformation of environmental governance. Specific examples of this individual analytical focus include: ‘SEM’ in the Kristianstads Vattenrike wetland in Sweden (Olsson et al.,

2004); Virginia Chadwick of the Great Barrier Reef Marine Park Authority in Australia (Olsson et al., 2008), and; Buzz Holling of the global Resilience Alliance (Parker and Hackett, 2012).

Some of this literature also refers to the desirable personality traits of these individual leaders. In the environmental sciences field common desirable traits include charisma, strength, commitment, and reputation. Transformational qualities such as vision and charisma are emphasised in the synthesis and review papers. For example, Scheffer et al. (2003) discuss, at an abstract level, charismatic opinion leaders with high social capital. Traits such as strength, commitment and/or motivation are, however, more common across empirical papers (Pagdee et al., 2006; Huitema and Meikerink, 2010; Gutiérrez et al., 2011). Walters (2007: 306) observes that individual leaders “made a very large personal investment of time and energy” to ensure programme success but emphasizes that these individuals were ‘middle managers’ and would not be called inspiring or charismatic. Attributes associated with negative outcomes include domineering, corrupt, weak or insecure, and inactive or absentee leaders (Zulu 2008).

In the environmental sciences literature, *leadership as person* comes to the fore when environmental crisis narratives call urgently for agents who can address and remedy problems. Such agents are in most cases simply asserted to have desirable or requisite personality traits and are cast as environmental ‘heroes’, ‘saviours’ or ‘champions’. In the cases we reviewed the *projection* of these attributes or their social construction was not treated as an analytical problem or empirical research question. In a prominent conservation journal, Black et al. (2011: 335) provide a list of “recommended characteristics, qualities and actions that a systems-thinking leader should apply in a conservation setting”. In the even more prominent *Nature* journal, Gutierrez et al., (2011; 387-388) argue that their meta-analysis of fisheries co-management shows that “the presence of at least one singular individual with entrepreneurial skills, highly motivated, respected as a local leader and making a personal commitment to the co-management implementation process was essential”. The meta-analysis approach used in this paper simply recorded the presence or absence of a community leader using a binary code (1/0) and correlated this with successful co-management; it did not capture whether or not the individuals present exhibited these personality traits.

In the context of integrated conservation and development the interpretation of *leadership as person* is problematic. The perspective is often normative and assumes that the *purpose* of leadership (*Sensu* Kempster et al., 2011) is transparent and uncontested, see section below. It is also simplistic in assuming that one or two easily identified individuals can sufficiently and legitimately represent the range of issues under negotiation in a sustainable development policy context. Rosen and Olsson’s (2013) analysis of the Coral Triangle Initiative (CTI) suggests that these assumptions do not necessarily hold true. The CTI is a regional policy to transform marine conservation, fisheries management and food security in parts of Southeast Asia and the Pacific. President Yudhoyono of Indonesia has been widely heralded as the instigator of the CTI (CTI RPOA, 2009; Fidelman et al., 2012; Foale et al., 2013). However, analysis reveals behind-the-scenes involvement from up to fifty institutional entrepreneurs representing three international conservation agencies (WWF, CI and TNC) (Rosen and Olsson, 2013). An analysis of different stakeholders’ perceptions of CTI priorities reveals subtle differences in how actors value and pursue conservation and development outcomes (Fidelman et al., 2014). Nevertheless, the background influence, or implicit leadership, by institutional entrepreneurs represented a strong conservation bias, which was reflected in the

CTI's Regional Plan of Action despite Member Nation's development priorities (USCTI, 2010; Foale et al., 2013). Conceptualising leadership as person alone tends to oversimplify the contested nature of policy-making by focusing, at the extreme, on one defined agenda represented by a single individual.

Leadership as position

Leadership as position considers *where* (in which roles) leaders operate from and is perhaps the most common way in which leadership is understood both in lay and professional academic discourse. In other words, leadership is equated to occupying a formal position of authority. As famously observed by Weber (1968), this framing stems from the inherently bureaucratic (and often hierarchical) character of modern organizations, and suggests that the individual who is occupying a formal position is the leader and holds the resources and power necessary to lead, with power often being more concentrated at the top of the hierarchy.

Conventional environmental management is characterised by top-down, centralised, and coercive structures of governance, and arguably leadership (West et al., 2006; Westley et al., 2013). This approach is perceived to have largely failed from a social justice perspective by dismissing the basic rights of local resource-users (Peluso, 1993; Jeanrenaud, 2002), and from a practical or instrumental point of view by failing to motivate resource-user compliance with management (Berkes, 2003; 2009). In more contemporary cross-scale environmental governance, leadership is, in principle, enacted simultaneously at multiple positions from the local to the international. This form of governance is espoused in policy and legislation across most nations and is taking seed on the ground even if not yet uniformly practiced.

Our review of the environmental sciences literature found that studies emphasise single, often formal, leadership positions. Kates et al., (2012) and Smith et al., (2009) identify individuals who in their formal political positions as, for example, County Executive, Governor, or City Mayor have catalysed climate change adaptation planning and action in the United States and United Kingdom. Whereas, in their analysis of pre-conditions for fisheries co-management, Chuenpagdee and Jentoft (2007) highlight the role of different leadership positions in different contexts: an individual champion within government in Barbados; local entrepreneurs within the fishing community in Malawi and Brazil, and; the government working with research organizations or conservation agencies in Mozambique, Philippines, South Africa and Zambia.

Only a subset of the literature recognises multiple, interacting sources of leadership, whereby more than one individual, organization or network is linked through a more nested form of leadership (e.g., Marschke and Berkes, 2005; Olsson et al., 2008; Zulu, 2008). Rosen and Olsson (2013: 201) argue that “the interactions among several types of individuals and organizations” are of great importance in institutional change. Interactions among leadership positions are demonstrated by Marin et al. (2012) who argue that leadership is provided by both a governance network that “revolutionized ecosystem management” and by “key” actors within the network to whom the success of the network is attributable in part. Similarly, in their analysis of the implementation of large-scale ecosystem-based management in the Great Barrier Reef, Olsson et al., (2008) refer to: leadership by the Great Barrier Reef Marine Park Authority in general; the Senior Management Forum within the Authority, responsible for communicating a common vision, and; the two

executive directors who led the Forum and navigated both internal and external politics. Even then, the specific leadership skills of Virginia Chadwick, one of the executive directors, were emphasised.

Most studies that identified multiple sources of leadership portrayed them as mutually supportive. Fewer authors recognise that interacting leadership positions can be causes of conflict and contestation (Fleishman et al., 2010; Hu, 2011; Njaya et al., 2012). Tension among leadership positions appears to be more evident when new positions are introduced, whether through formal routes or self-organization. State-backed governance reform toward co-management in natural resources management is a clear case in point as articulated by Njaya et al., (2012). The authors analyse interactions between new fisheries co-management arrangements and existing, often long-standing, traditional institutions in Malawi. They describe three levels of decision-maker – Department of Fisheries, Beach Village Committees [BVCs], and traditional leaders – all of whom “have been endowed some form of power, which they use to create rules, make decisions, and adjudicate in relation to fisheries management” (Njaya et al., 2012: 663). Challenges arise from grafting contemporary governance arrangements (i.e., BVCs), run by elected leaders, onto traditional institutions governed by non-elected (hereditary) village heads. Njaya and colleagues (2012) found that in many instances, traditional leaders have imposed *ad hoc* rules and sanctions onto fishers for their own personal gain thereby undermining new co-management processes. In this example, new leadership positions threaten existing positions whose occupants respond by attempting to reinforce their authority.

In other instances, new leadership positions may emerge in response to a perceived lack of leadership in a particular space. This is exemplified by Gupta’s (2010) review of global climate change policy. She points to the withdrawal of the United States from the Kyoto protocol and argues that the lack of “real statesmanship” leading to “poor quality leadership” from developed countries resulted in the subsequent emergence of sub-national initiatives at the state or country level in Australia and the United States of America that diverge from national rhetoric (Gupta, 2010: 650). New leadership positions may also arise in response to the perceived failure and dominance of conventional management approaches. For instance, newly created and/or informal leadership positions are increasingly highlighted in literature concerned with social innovation and transformation of environmental governance, articulated largely through the notion of shadow networks that form outside the political and organizational processes maintaining the status quo (Olsson et al., 2004).

The tensions inherent in integrated conservation and development between potentially divergent sets of objectives means that those in leadership positions are likely to confront and compete over management resources (e.g., funds). Studies adopting the *leadership as position* perspective tend to present these positions as static, uncontested, or describe them in simple moralistic terms as variously ‘right’ or ‘wrong’. They also assume that leaders in formal positions will act according to a set of norms associated with that position. In practice none of these assumptions may hold true and yet empirical work in environmental science has still to take up the challenge of tracing contestations, dynamics and differing practices associated with particular leadership positions.

Leadership as process

Leadership as process refers to *how* leaders get things done. According to Grint (2005) it assumes the importance of context and its impact on the actions and motivations of the leader. As such, different cultural contexts may sway the actions and outcomes of leadership (Turnbull et al., 2012).

In the environmental science literature we reviewed there is frequent reference to styles of leadership. Some of the style nomenclature reflects that developed in the field of leadership studies, including democratic, distributive, servant, adaptive, visionary and transformational leadership (Folke et al., 2005; Pahl-Wostl et al., 2007; Manolis et al., 2008; Biggs et al., 2010; Gupta et al. 2010; Scholten et al., 2010; Lockwood et al., 2012). Other terms for styles of leadership mirror concepts developed in environmental sciences including complexity, systems-thinking and tipping point leadership (Scheffer et al., 2003; Black et al., 2011; Lockwood et al., 2012). Leadership styles pertain to *leadership as process*. For instance, according to authors that utilize these terms, adaptive and systems-thinking leadership focus on learning rather than technical fixes to address governance problems (Manolis et al., 2008; Black et al., 2011), and visionary leadership provides new meaning and visions for reform (Folke et al., 2005; Gupta 2010). The leadership styles discussed across the literature tend to be idealised rather than practiced approaches. As above with the personality traits of leaders, leadership styles are often advocated rather than treated as a focus of empirical analysis.

The environmental sciences literature we reviewed also refers to key leadership strategies including: visioning, knowledge-building, innovating, linking actors, trust building, conflict resolution and securing resources, among others (Folke et al., 2005; Olsson et al., 2008; Rosen and Olsson, 2013). These strategies also pertain to how leaders get things done. These strategies have been identified through empirical, mostly qualitative, research in environmental sciences. Papers that synthesise these findings suggest that leaders do, or should, employ a large number of strategies in environmental governance policy and practice. However, the current framing does not uncover the tactics or the very practical means by which leadership as process unfolds. Relatively little of the literature critically investigates how leadership emerges, evolves, or practically achieves results such as knowledge building, trust building, and conflict management. As one notable exception, in the context of the Coral Triangle Initiative (CTI), Rosen and Olsson (2013) elaborate in some detail the *tactics* used by institutional entrepreneurs to ‘secure wider political support’ and ‘mobilise resources’, such as packaging what is essentially a regional conservation policy in terms of the priorities of the nations these entrepreneurs are trying to influence. In doing so, the authors conclude that institutional entrepreneurship “may bias institution building toward certain social and ecological goals” and “is likely to not only reflect resource asymmetries, but also generate new struggles over resources, procedures, and authority” (Rosen and Olsson, 2013: 202). In this case, analysing the leadership process in detail uncovered critical, and sometimes subtle, ideological and material contestations within a widely supported initiative to counter the environmental crisis in the world’s epicentre of marine biodiversity.

Our review also finds that the literature pays little explicit attention to contexts, particularly non-western contexts: leadership styles and strategies are portrayed, somewhat ethnocentrically, as universally understood and achievable. The papers investigate governance processes and outcomes across many of the world’s geographic regions (Table 1) but rarely account for these specific contexts in their analysis and interpretation of data. The importance of context cannot be

overestimated in integrated conservation and development as a large majority of initiatives are situated in developing countries with high biodiversity and urgent development needs. In such contexts, *how* leadership emerges, is practiced and gains legitimacy will invariably and inevitably be culturally specific and dynamic. For example, historically in the Pacific an individual attains 'Big Man' status through a series of acts that Sahlins (1968) describes as capitalistic, self-interested, and competitive. Such processes of leadership are now challenged by the 'democratisation' of social stratification as contexts change (Douglas, 1979). The processes of leadership advocated and sanctioned by the state and subordinate authorities are also changing as governance arrangements move toward more participatory and collaborative forms of management. Decentralisation of central governments and natural resource management agencies is in many places incomplete (e.g., Ribot et al., 2006). Nevertheless, authority and responsibility has shifted to lower-levels of government. How provincial and local governments enact their growing leadership roles – so, how they connect horizontally and vertically with other state actors and how they relate to non-governmental entities – varies considerably across and within nation states. More attention to *context* is needed for in-depth and culturally sensitive *understanding* of leadership as process (Ladkin, 2010). Such interpretation and understanding, moreover, will have highly practical implications for those working to achieve outcomes (i.e., 'getting-things-done-on-the-ground') in developing countries.

Leadership as result

Leadership as result uses *what* leaders achieve as a defining feature of leadership. The environmental sciences literature we reviewed investigates the role of leadership in either maintenance of existing governance regimes or in the emergence of new approaches. Leadership in existing regimes was associated with outcomes such as resource-use monitoring, sanctioning of rule-breaking and conflict resolution (Ruttan, 2006; Van Laerhoven 2010; Cinner et al., 2012). More often, however, leadership is associated with change (Folke et al., 2005; Chuenpagdee and Jentoft, 2007; Christie et al., 2009; Olsson et al., 2008; Biggs et al., 2010; Black et al., 2011; Kates et al., 2012; Rosen and Olsson, 2013). As articulated by Folke et al., (2005: 451) the view is that "crises open up arenas for new leadership with various objectives."

Whether analysing leadership for stability or change, studies typically associate the presence of leadership with successful outcomes and the absence of leadership with failures or stalemates. Leadership is found to be a key requirement for effective environmental governance (e.g., Folke et al., 2005; Walters, 2007; Christie et al., 2009; Biggs et al., 2010; Black et al., 2011; Lockwood et al., 2012), improved rural livelihoods (Biggs, 2008), and successful climate change policy (Smith et al., 2009; Gupta, 2010; Kates et al., 2012). While leadership is often identified as one of a range of important factors, it is frequently found to be one of the most important factors. The large-N studies and meta-analyses identify the presence of a leader as having a high (Pagdee et al., 2006; Van Laerhoven, 2010; Gutierrez et al., 2011) to moderate or mixed (Ruttan, 2006; Cinner et al., 2012) influence on governance outcomes. An absence of leadership is also connected to ineffective management. Fabricius et al., (2007: 1) suggest that communities who cope with disturbance events but do not adapt to them "lack the capacity for governance because of a lack of leadership, of vision, and of motivation". And in a review of thirty cases of fisheries management, Walters (2007: 306) finds that most initiatives failed and that "of the three main causes of implementation failure, easily the most important has been lack of leadership".

Much of the literature that found leadership to be highly important for successful outcomes considered a single or aggregated environmental outcome (Pagdee et al., 2006; Van Laerhoven 2010; Gutierrez et al., 2011; Kenward et al., 2011). Only a relatively small proportion of the literature problematizes leadership or associates the presence of leadership with contested or undesirable management outcomes (Njaya et al., 2012; Mohammed and Inoue, 2012; Fleischman et al., 2010; Zulu, 2008). In the few quantitative studies where outcomes are disaggregated, authors report more nuanced, mixed findings for the role of leadership (Ruttan, 2006; Cinner et al., 2012). For example, Cinner et al., (2012) find that trust in leadership is important for ‘reported compliance’ to fisheries management rules but is not significantly correlated with ‘benefits to livelihoods’. Similarly, Ruttan (2006) finds that the presence of leaders is significantly correlated with some outcomes in irrigation studies, but is not correlated with any successful outcomes in the fisheries systems he examined. A few qualitative studies also show that leadership can lead to neutral or negative outcomes. Overly dominant leadership can cause “an atmosphere of disengagement” in participatory processes (Wale et al., 2009: 12) and lead to inequitable distribution of benefits from environmental management (Perez-Cirera and Lovett 2006; Chuenpagdee and Jentoft, 2007; Zulu, 2008; Njaya et al., 2012). Even in settings where leadership is presented as being more dispersed or democratic, outcomes can be biased towards particular objectives along the conservation – development spectrum (Rosen and Olsson, 2013).

Grint (2005) suggests that in situations where *leadership as result* is the modus operandi, if the results disappoint followers’ expectations then they are likely to blame and replace the leader with a new one that, in their eyes, promises to achieve desired results – witness here frequent coach dismissals in underperforming elite sports teams. Yet, in sustainable development results are contestable. Successful integrated conservation and development is premised on achieving two broadly defined results: biodiversity protection and improved social wellbeing. Each of these is internally contested, i.e., biodiversity conservation can be about maintaining genetic diversity, number and type of individual species, or preserving ecosystem function, while different dimensions of subjective and/or material social wellbeing can be important for different people at different times (Daw et al., 2011). These two overarching societal objectives are also traded off with each other temporally (short-term costs for long-term benefits of sustainability) and spatially (no-take conservation areas surrounded by buffer zones where enhanced or alternative livelihoods are encouraged). Not only are results contested when considering the potential tensions inherent in conservation and development, but benefits can also be relatively more or less important for different people. The issue of marginal benefits is, indeed, an important debate in development studies where, for example, even \$1 can significantly increase the income of those living below the poverty line (Lele et al., 2013) or, for instance, critical decisions are made about development infrastructure (e.g., dams) to support ‘the greater good’ that may displace more vulnerable but less populated communities (Khagram, 2004). Such questions pertain to social justice and lead us towards consideration of leadership as purpose. So, to conclude this section, the ‘leadership as result’ perspective in this policy arena needs to acknowledge that results are rarely optimal (a notion captured by the idea of ‘wicked’ environmental problems – Rittel and Webber, 1973 in Hughes et al., 2013) and are perceived differently by multiple stakeholders at multiple scales, from local to international (Brown, 2003; Olsen, 2003).

Leadership as purpose

Leadership can also be construed in terms of the leader's capacity to provide followers with convincing reasons or motives for achieving particular ends. In other words, the leader's relative effectiveness is judged in terms of how well they answer followers' *why* questions; their ability to purvey the vision or meaning that mobilizes collective action. Kempster et al. (2011) relate leadership as purpose to societal goals: the pursuit of a 'greater good' beyond 'self' and beyond 'the organization'. It is therefore distinct from leadership as result. Sustainable development (variously construed) is a normative societal goal and leadership of this agenda or, more particularly, environmental leadership is assumed by many to be an unequivocal good and, thus, of significant and legitimate purpose. Our review of the environmental sciences literature suggests a general pattern within the field of leadership phenomena which privileges the agentic role and function of what it construes, *a priori*, to be 'leadership'. So, where a leader is present, leadership will occur and desired results will be achieved. These desired results are often narrowly understood as averting environmental crisis by reducing impacts from resource-dependent communities.

In conservation and development discourses, the purpose or 'greater good' is frequently biased towards environmental protection, with development limited to environmental education or low-impact alternative livelihoods (e.g., Lele et al. 2010). Some key studies we reviewed portray the actors and mechanisms maintaining an 'unsustainable' or 'destructive' status quo as dominant and homogenous. This is illustrated through the language of leadership whereby those who 'conform' or buy in to an 'alternative' pro-environmental process are referred to as leaders, while those who oppose it or question the details are often not (regardless of whether or not they garner a following). As an example, Folke et al., (2005: 454) discuss a set of "characters" that emerge in workshops on adaptive management, distinguishing those who take on leadership roles from those who "oppose and criticize". And in defining the multiple functions of visionaries and champions, Fabricius et al., (2007:8) refer to those who do not necessarily align with the environmental governance goals and thereby seemingly "manipulate interventions to suit their own needs" as "devious champions". It is not clear from the case laid out in either paper whether other stakeholders or participants in the governance process viewed particular individuals as devious, in opposition, or distinct from a 'legitimate' or consensual leadership process, or whether this was an interpretation of the authors.

Moreover, environmental crisis narratives sanction urgent and decisive action. New governance arrangements, institutions and stakeholder alliances - including protected area management committees, natural resource management groups, and community or project co-ordinating networks - are facilitated (or imposed) by governments, non-governmental organizations, and donor-funded projects responding to crises. These crises may or may not be perceived or understood by the 'beneficiaries' or 'stakeholders' in the same way. New governance initiatives or interventions are either built up around existing leaders who demonstrate sympathy to the cause, or the governance networks themselves create spaces and positions to be filled by 'strong' and 'committed' environmental leaders. Such initiatives and interventions often cut across existing community institutions and can conflict with traditional leadership (Njaya et al., 2012) or established bureaucracies, as well as potentially creating new vulnerabilities through weakened institutions, increased conflict among resource users and failure to reduce pressure on resources (Gelcich et al., 2006). In developing countries, in particular, *the purpose of leadership cannot be assumed.*

both externally-driven international development and preservationist approaches to biodiversity conservation have been criticised as having neo-colonial undertones for their presumptions about what is best for those in the developing world (Kothari, 2005). As with perspectives that privilege leadership as process or result, context and differing perspectives need to be taken into account when construing 'leadership as purpose' within integrated conservation and development policy and programmes.

Arguably, political ecology speaks most directly to this challenge of revealing and critically assessing the underlying assumptions, motivations or purpose of conservation and development 'interventions'. Conservation, international development and aid are driven by the best intentions so to raise questions about their application and impact is a sensitive issue. As is clear in Forsyth's (2003) *Critical Political Ecology*, critique of environmental orthodoxies is constantly padded with reassurances that it is not the importance of environmental governance that is at question but the generalisations and over-extensions of crisis narratives, particularly where responsibility falls solely to local communities in developing countries. Political ecology is equally concerned with the wider political economy and the role of distal drivers of change including climate change, globalisation and market integration, and inequality where responsibility falls outside of local resource-dependent communities. In this broader analytical landscape, environmental leadership is about leaders at multiple scales, embedded in contextualised and intricate processes where results are debated and negotiated. Meaningful participation of people in 'deliberative' governance remains the aspiration of the conservation and development paradigm. More nuanced environmental leadership research is required to mark genuine progress toward this goal.

Discussion and Conclusion

Our paper has thus far sought to explore how environmental leadership is variously understood and represented in the environmental sciences literatures. To this end, we have considered differing constructions and characterizations of leaders and leadership in quantitative comparison papers, qualitative case-studies, and synthesis and review papers. We used the field of integrated conservation and development as a political ecology lens to reveal key limitations of leadership constructions in environmental science. In this concluding section we summarise our findings and contrast them with what we take to be more analytically sophisticated environmental leadership research. We end by proposing that more critically orientated leadership research aligned with an understanding of environmental crises from a political ecology perspective can offer new opportunities for enhancing understanding of environmental leadership phenomena.

Our analysis of the environmental science literature shows that leadership research in this field emphasises individual leaders or leadership positions and leaders' traits and competencies. Simply accounting for the presence or absence of leaders is common across the quantitative studies, but many review and case-study papers also take a relatively narrow view of leadership as person or position. This focus on the individual and their competencies is highly reminiscent of mainstream and orthodox conceptualizations of leadership purveyed in management and organization studies (Carroll et al., 2008). Concepts of leadership based on the individual 'hero' have historical roots but continue to be strongly associated with Western notions of individual and corporate success (Case et al., 2011).

Leadership as process can offer broader conceptualisations of leadership than the individualistic orthodoxies that characterise leadership as person and position. However, the categories of Grint's leadership heuristic are not mutually exclusive, and as our findings suggest there is considerable overlap among the different framings. The focus in environmental sciences on leadership styles and strategies pertains to leadership as process but as articulated through the language of individuals' competencies and styles of leadership this framing remains leader-centric, generic and highly normative, tending to associate positive qualities like strength and commitment with leadership, or to prescribe 'ideal' leadership styles and strategies. This finding is supported by Gruber (2010) whose study reveals that leadership is identified as important almost twice as often in the research literature (74% of papers) as in practitioners' reporting of cases (38% of papers). In other words, research studies that employ taken-for-granted conceptions of leadership and leadership outcomes often find it to be a more significant factor (in statistical terms) than do managers who routinely observe and are embedded within the messy workings of governance on the ground. The 'positive framing' pervading leadership research in environmental science also finds expression in studies that emphasize 'leadership as result'. Here leadership is portrayed as an unequivocal good: successful environmental outcomes are attributed to the presence of leaders and leadership processes while environmental governance failures are associated with absent, weak or corrupt leadership. In this sense, 'leadership' of agendas differing from those propounded in a given study and which deliver results or outcomes that run counter to those favoured by the author(s) is invariably delegitimised. Individuals or groups who represent alternative views and purposes are presented as 'opposers', 'blockers' and 'deviants'. Relatively few papers in environmental science analyse the dynamic interrelationship between differing leadership positions or processes, and even fewer note the potential for contestation among interacting leaders and leadership positions, multiple processes, and divergent results. Denis et al. (2012: 211) trace the considerable body of work in leadership studies that considers leadership as "the combined influence of multiple leaders" including leadership across organizational boundaries. It appears that on the whole this research also largely focuses on synergies in plural forms of leadership, with Denis et al. (2012) noting as an exception work by Spillane and colleagues which recognises that leadership interactions may also be highly contested. The authors conclude their review by calling for leadership research that affords more attention to power dynamics; a proposal which chimes well with our assessment here.

Using Grint's (2005) analytical heuristic our paper aims to demonstrate how singular framings of leadership do not enable a rounded understanding of how leadership influences the negotiated and oft-contested outcomes of sustainable development. Currently, environmental leadership is conceptualised in a way that: i) suggests that leaders emerge solely in response to one dominant 'crisis' – often dichotomised as either economic or environmental - rather than in response to multiple socio-political, cultural or environmental interests, and; ii) aggregates or homogenises social complexity in a fashion which assumes that followers' interests and expectations, as a group, align with each other as well as with those of organizational/institutional authority figures. Indeed, we would argue that many interpretations of leadership in the environmental sciences literature are silent on the role and perspectives of followers or constituents, even within framings of leadership as process or result. The only notable exceptions identified in our review are studies that document trust in a defined leader (e.g, Cinner et al., 2012) or leadership processes (e.g.,

Marschke and Berkes 2009). Many studies discuss and promote leadership strategies including trust-building and linking actors but they rarely directly evaluate actors' (followers' and other stakeholders') perceptions and responses to these processes. These examples demonstrate the lack of empirical complexity in how analysts account for followers in this field relative to the extensive pre-occupation with 'followership' in certain strands of contemporary leadership studies. We suggest that defining problems related to the environment as crises tends to invite specific forms of leadership that: a) simplify the complex, contested ecological and social causes/consequences of environmental change, and; b) propose solutions that tend to marginalise diverse viewpoints. Adoption of a political ecology perspective informed by heterodox and more interpretative approaches to leadership phenomena would, we contend, greatly benefit environmental science by challenging and 'de-naturalizing' the ideological positions currently implicit in its leadership narratives.

To counter what they suggest is a narrow focus on the leader-follower relationship in environmental leadership research Westley and colleagues (2013) have recently argued that expanded concepts of entrepreneurship should replace leadership as the focus of analysis because it can encompass more diverse, more numerous, and more institutionally or contextually embedded 'change agents'. Within this interpretation of leadership, the research emphasis shifts to the *practices* of a number of actors at different stages of the process and at different scales in the system. While conceptually novel for this field, Westley and colleagues (2013) recognise that more empirical work is needed to identify who these entrepreneurs are and how they practice their craft or "mobilise the central skills" to sense-make, build partnerships, resolve conflicts, leverage resources and so on. We would add that, in particular, understanding the relationships (synergistic and antagonistic) among entrepreneurs is key to explaining governance outcomes.

A relatively recent set of publications on water policy transitions across sixteen global case-studies exemplifies what we take to be more analytically sophisticated environmental leadership research, contrasting sharply with many of the studies we reviewed (Huitema and Meijerink, 2010; Meijerink and Huitema, 2010). The authors provide a critical analysis of the role of water policy entrepreneurs in several ways: they account for both collaborative and adversarial advocacy coalitions; they describe leaders who promote and block change neutrally as policy entrepreneurs; they outline in-depth leadership strategies, highlighting that policy entrepreneurs who block change often use similar strategies to those promoting change, and; they confirm that new policies were rarely implemented fully. Huitema and Meijerink (2010) suggest that opposition coalitions are particularly effective during implementation stages where shadow networks and formal policy networks interact and, thus, that new and old policies often overlap. This analysis does not see leadership as an unequivocal good. Instead, it invokes analytical distance to describe those who oppose and promote policy change, it focuses in detail on *leadership as process* and it views results as partial, contextual and overlapping. This is a rare example of analytically rigorous research on the role of leadership in environmental governance.

Our paper argues that a further step towards more critical research on environmental leadership could borrow from political ecology in breaking down environmental orthodoxies and narratives of crisis. Discourses around a fragile, balanced nature and the pristine past are less dominant or overt across contemporary environmental science research. Yet, crisis narratives continue to

pervade the environmental sciences. This is illustrated in the language of mass extinction, a biodiversity crisis of unknown magnitude, and the potential to affect changes to evolutionary processes (Levin and Levin, 2002), in economic valuations of losses in ecosystem services in the trillions of dollars per year (Costanza et al., 2014), and in notions of exceeded planetary boundaries and the potential global collapse of ecosystems (Rockstrom et al., 2009). Environmental change may well be unprecedented but generalising it as a global crisis can make those considered to be responsible vulnerable to interventions developed and implemented through processes of which they have little control or input.

Instead, Forsyth (2003: 13) advocates a perspective that “acknowledge[s] the existence of plural rationalities about environmental change”. For some people, environmental change, and even degradation, are not experienced as crises or as problems requiring intervention. Leadership is inherently implicated in the outcome and procedural legitimacy of environmental governance interventions. In this paper we have identified many limitations of current conceptualisations of leadership in environmental sciences. These limitations are particularly stark when articulated through the concept of integrated conservation and development, which we have employed to foreground the contested nature of environmental change, environmental protection and social development.

An approach to environmental leadership informed by political ecology would interrogate how leadership practices: (a) reflect culturally complex and plural contexts, and; (b) result in different types of outcome. These outcomes, in turn, would be viewed and interpreted from different perspectives, that is, perspectives of putative ‘followers’ and ‘non-followers’ who themselves are mediated by complex intersectional social motives deriving from such demographic attributes as age, gender, ethnicity, status, and so on. It would also emphasise how leadership is not always a singular ‘good thing’ from the perspective of the environment, but instead is composed of multiple practices that reflect a diversity of social objectives. Again, we flag the heuristic offered by Grint (2005), placed carefully and specifically in a pluralistic context, as a useful entry point to a more appropriate and nuanced analysis of leadership.

Our goal in interrogating narratives of environmental crisis and environmental leadership was not to downplay their significance (cf Forsyth 2008). Instead, understanding a greater diversity of leadership practices, including those that may be perceived to be acting against the interests of environmental governance, enables greater opportunities to meaningfully engage with such practices. By adopting and embracing such analytical complexity, there would also be greater scope for recovering the influences of diverse constructions of leadership on sustainable development outcomes (however perceived) at national and sub-national levels.

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Notes

¹ We use the term ‘construction’ in this paper as a short hand for ‘social constructionism’; a well-established anti-essentialist orientation toward the understanding and explanation of social behaviour. Finding its origins in the seminal work of Berger and Luckmann (1966) and pursued by such epistemologists as Harre and Secord (1972), social constructionism is now a social scientific position which takes language to be constitutive of social realities (Shotter, 2006) and which, theoretically and methodologically, examines the processes through which *communities* produce and reproduce perceptions, understandings and meanings. Such meanings do not reflect essences in nature; rather, they are contingently *constructed* and become institutionalized as a result of historical conditions and social practices (as interpreted through shared languages). Social constructionism is an epistemological, theoretical and methodological position that is commonly deployed in the field of leadership studies (Ford and Lawler, 2007). Indeed, there are examples of social constructionist analyses within the pages of this journal (see, e.g., Barge and Fairhurst, 2008).

² Examples that are relevant to the development context include those leadership scholars who have argued for wider anthropological (Jones 2005, 2006), post-colonial (Banerjee 2004, Banerjee and Linstead 2001, 2004) and non-western (Chia 2003, Jullien 2004, Warner and Grint 2006) perspectives on the phenomenon.

³ Search terms: Topic=(ecosystem* OR natural resource OR conservation OR fisher* OR forest* OR catchment OR water* OR protected area OR social-ecological) AND Topic=(leader* OR entrepreneur*) AND Year Published=(2002-2013).

⁴ The term corporate here helped exclude articles referring to a 'corporate environment' rather than the natural environment. It did not exclude literature on commercial resource use by individuals, businesses or the private sector more generally.

⁵ Distinguishing biodiversity conservation and natural resource systems like fisheries, forestry and water is a standard taxonomy of subject division within environmental science.