

Intercultural capacity deficits: Contested geographies of coexistence in natural resource management

Richard Howitt, Kim Doohan*,† Sandie Suchet-Pearson,* Sherrie Cross,*
Rebecca Lawrence*,‡ Gaim James Lunkapis*,§ Samantha Muller*,¶
Sarah Prout*,** and Siri Veland*,††*

*Department of Environment & Geography, Macquarie University, North Ryde NSW 2109, Australia. Email: richie.howitt@mq.edu.au; sandie.suchet@mq.edu.au; sherrie.cross@optusnet.com.au

†Mintupela Consultants, Albany, WA 6332, USA. Email: min2pela2@bigpond.com

‡Political Science, Umeå University, Umeå SE-901 87, Sweden. Email: rebecca.lawrence@pol.umu.se

§Faculty of Social Science, University of Malaysia Sabah, Kota Kinabalu 88999, Sabah, Malaysia. Email: gaim@ums.edu.my

¶School of the Environment, Flinders University, Adelaide, SA 5001, Australia. Email: samantha.muller@flinders.edu.au

**School of Earth and Environment, University of Western Australia, Crawley, WA 6009, Australia. Email: sarah.prout@uwa.edu.au

††Environmental Change Initiative, Brown University, Providence, RI 02912, USA. Email: siri_veland@brown.edu

Abstract: *Focusing on the coexistence of competing and contested interests in intercultural natural resource management (NRM) systems in Australia and Malaysia, this paper explores the ways in which ontological pluralism and the interplay of socio-cultural, political-economic and biophysical influences shape NRM systems. We aim to foster a discursive space in which to reframe the challenges of capacity building in the rapidly changing spaces of intercultural NRM systems. The paper synthesizes the conceptual arguments of field research to conclude that capacity deficits of dominant institutions, processes and knowledge systems drive many systemic failures in land and sea management affecting Indigenous peoples. We advocate urgent action to build intercultural competence and new capacities and competencies in those institutions. The paper reframes intercultural NRM in terms of coexistence and invites wider debate about these ‘new geographies of coexistence’ in intercultural NRM systems.*

Keywords: *coexistence, indigenous rights, intercultural competence, intercultural natural resource management systems*

Introduction

Intercultural natural resource management (NRM) systems exist in settings where diverse interests in and claims to natural resources coexist. These systems bring together local interests, including Indigenous or customary owners, with state agencies and commercial interests. They embody relationships and institutional structures that manage and regulate both the natural resources and the relationships involved. Many of these innovative systems are well intended, aiming to secure and sustain mutual social, economic and environmental benefits through shared management of places and resources. Good intention, however, is insufficient to overcome the complex legacies

of social, economic and environmental injustice and involvement of multiple cultural groups that characterise many intercultural settings. Layers of historically constructed power relations and patterns of disadvantage and advantage are deeply entrenched in social, political and economic realities on the ground. This is certainly the experience in Australia and Malaysia, where new arrangements have reinforced those patterns more often than they have mobilised resources to resolve outstanding local claims in just and sustainable ways. While arrangements might acknowledge competing claims to responsibilities, interests and rights in places and resources, they generally continue to favour state and commercial interests over local communities.

Our starting point in this paper is to recognise that intercultural NRM systems across the Asia-Pacific region typically encompass incommensurable differences in understanding of human–nature relations best characterised as ontological pluralism (Howitt and Suchet-Pearson, 2003, 2006). Developing management discourses and practices that are responsive to such pluralism continues to be fraught and conflictual in most settings. Individuals, communities, institutions and agencies exhibit ‘capacity deficits’ – shortfalls in knowledge, skills, understanding and values that limit their effectiveness in particular circumstances – that affect both intercultural communication and the operational effectiveness of even well-intentioned arrangements. Allenby offers a concise account of the sort of deficit in understanding that affects many intercultural NRM systems. Discussing the development of sustainability science, he refers to the need for conventional scientists to develop and value:

an ability to sympathetically perceive, and integrate, mutually exclusive but at least conditionally valid ontologies . . . to understand one’s own belief structures as contingent and limited, and accept and respect other worldviews that may be not just different, but contrary, to one’s own (Allenby, 2006: 8).

There is a dominant discourse about capacity building in intercultural NRM systems that privileges national development goals and targets the need for capacity of Indigenous, minority and local participants to develop the skills and knowledge to make state NRM systems work. In intercultural NRM systems, this approach to capacity building is inadequate, mis-informed and fundamentally mis-directed.

This paper draws on extensive field engagement in intercultural NRM systems – including mining operations and Indigenous protected areas in Australia; tourism and co-management systems in Australia and Malaysia; and coastal zone management in Malaysia – as well as a range of post-colonial and political ecological thinking, to advocate a shift in focus to the capacity deficits of NRM agents, agencies and institutions. Lack of intercultural competence in key agencies dramatically affects the efficacy of intercultural systems and restricts achievement

of just and sustainable outcomes for local participants in these systems. The paper first considers the nature of coexistence in intercultural NRM systems, reviews limitations of co-management as a means of resolving competing Indigenous and state claims to resources and then reframes the challenge of intercultural competence in NRM. The concluding discussion proposes a more just and sustainable approach to capacity building in intercultural NRM.

Coexistence, co-management and intercultural NRM systems

In many countries around the Asia-Pacific region, as elsewhere, the property rights and economic benefits generated in NRM systems constitute a significant element of states’ claims *against* Indigenous rights to contemporary self-determination (Stewart-Harawira, 2005; Howitt, 2012). The coexistence of persistent Indigenous cultures, communities, institutions and governances alongside cultures, communities, institutions and governances that trace their power, values and priorities to colonial and post-colonial sources present substantial political, social and environmental challenges.¹ Competing claims, overlapping jurisdictions and diverse populations are co-located, with complex consequences. In framing our discussion in terms of coexistence and capacity deficits, we hope to draw attention to the underlying reality of inter-mixed and changing values, priorities and practices that influence the cultures, communities, institutions and governances implicated in intercultural NRM systems. We aim to foster just and sustainable solutions that address intercultural capacity deficits in dominant NRM institutions.

Co-management emerged in the 1990s as an important approach to building institutions for intercultural NRM. Co-management systems cut across jurisdictional scales, across cultural difference and across diverse purposes, and have developed rapidly in recent years (Natcher *et al.*, 2005; Berkes, 2009). Yet despite the passage of the United Nations Declaration of the Rights of Indigenous Peoples in 2007, which supports such approaches to secure Indigenous peoples’ rights, there are no unproblematic examples of sustainable systemic resolution of competing Indigenous–state claims to natural

resources. Even where there is rhetorical commitment to Indigenous rights and well-being as policy, NRM systems often continue operating to simply erase, dismiss or, at best, constrain and marginalise Indigenous rights.

Deep colonising NRM systems² typically privilege resource exploitation for commercial benefit (including both conventional extractive and protective modes of environmental management). Management structures, procedures and plans restrict and reconfigure Indigenous peoples' access to, control over and benefit from their traditional territories and resources. Even in jurisdictions that extend some recognition of Indigenous rights, these are typically governed under terms and within institutions defined by and accountable to the state whose claims and power to allocate resource rights to third parties are founded on historical and continuing Indigenous dispossession, marginalisation and exclusion. For many Indigenous groups, political processes and property laws deny and criminalise their customary rights and responsibilities, making Indigenous NRM governance within long-standing traditional governance systems simply impossible and, as Lunkapis (2010) notes, a shadow of past Indigenous systems – and even illegal. For example, legislation to manage areas for conservation purposes has often failed to attend to customary use of resources. Nursey-Bray *et al.* (2010) discuss the many obstacles an award-winning dugong management plan developed by the North Queensland Aboriginal community at Hopevale faced in trying to find ways to simultaneously protect dugong and green turtle habitat and maintain and protect traditional knowledge and hunting practices. Finn and Jackson (2011) note the inadequacy of environmental flows as a surrogate for Indigenous needs and cultural interests in Australian water management systems.

Even co-management systems that respond and adapt to Indigenous cultural dynamics and priorities face the challenge of historical power structures, cultural domination and exclusion. In most settings in Australasia, and southeast Asia, Indigenous societies have been required to adapt to the changing demands of both historic colonial and contemporary deep colonising systems that prioritise commerce and science over culture and political recognition.

These systems disempower or marginalise Indigenous discourses that are not couched in commercial or scientific terms, or simply cannot come to terms with the apparent 'lack of logic' within those discourses. Berkes (2009: 1698) optimistically sees social learning 'at the heart of iterated rounds of problem solving . . . which characterizes many longstanding co-management cases'. Similarly, Leys and Vanclay (2011: 574) posit a 'social learning model . . . for more broad-scale use in providing multi-level governance linkages and as a basis for targeting interventions to address policy gaps or failure'. In intercultural NRM systems, however, effective social learning must confront the legacies and contemporary manifestations of racialised, colonial discourses in many forms. Willingness and capacity to do so is uneven and often poorly developed in key areas.

While acknowledging the value of much work that is done in the in-between spaces of intercultural NRM, in the rest of this paper we explore the intercultural capacity deficits of dominant institutions, processes and knowledge systems, and point to the need for intercultural competence and the development of new capacities and competencies in those institutions. Clearly, just calling something 'intercultural' does not make it so. These intercultural capacity deficits in major NRM institutions and systems risk reinforcing collaborative management structures and processes that are, in fact, deeply colonising. Here, the Indigenous other is invited to participate in and contribute to the improved efficacy of systems whose basic purpose, structure and operations are consistent with dominant mainstream understandings of human–nature relationships (Suchet-Pearson and Howitt, 2006) and not necessarily those of the Indigenous, minority or marginalised local participants.

There has been significant progress in achieving political settlement of long-standing Indigenous claims and securing some form of collaborative outcomes through formal 'co-management' agreements. However, it would be naïve to assume that such settlements and agreements can guarantee just and sustainable outcomes or viable self-determination for Indigenous participants, as other papers in this issue demonstrate. While there is much of value in such settlements and the institutions they

produce (see e.g. *Ecological Management and Restoration* 13(1) 2012, particularly Ens and McDonald, 2012, Ens *et al.*, 2012a, Barbour and Schlesinger, 2012), the risk is that they reconfigure rather than overcome Indigenous disadvantage. Indigenous participation in such processes is often conditional on accepting state definitions of national interest, and state priorities for resource allocation and use (Marika *et al.*, 2009). This effectively predetermines the discursive possibilities and excludes groups who question or challenge the state's version of preferred outcomes. For example, Peluso (1993) highlighted how state use of conservation to extend control over national resources had militarised resource management systems and marginalised Indigenous groups with resource claims in Indonesia. Palmer (2004) explored state reinforcement of recreational fishing rights in formal resource management programmes in the Northern Territory and the limits this has placed on Aboriginal Traditional Owners.

Even optimistic accounts of state support for collaborative programmes recognise the fragile and problematic relationships involved (e.g. May, 2010: 398–399). A key challenge, then, is to frame the terms of state–local–Indigenous engagement in ways that recognise contemporary political discourses as contextualised in historical circumstances and long-standing deep colonising relationships. Marginalisation of culturally diverse local and Indigenous worldviews by state-dominated frameworks of funding, policy and evaluation risks entrenching conflict, disadvantage and continuing exclusion and marginalisation of difference in intercultural NRM systems. It also undermines well-intentioned efforts of state and commercial parties to secure equitable and sustainable coexistence, recognition and security for Indigenous groups.

Part of the underlying challenge facing state agencies and Indigenous advocates is the widespread assumption that science, democracy and economy are self-evidently superior foundations for good environmental and social decisions compared with Indigenous governance and knowledge (see e.g. Wohling, 2009; Turnhout, 2010). Such assumptions caricature the ontological pluralism of intercultural NRM systems as illusory. They risk authorising naïve conclusions that such difference is able to be

accommodated in rather simplistic models of collaborative management, often expressed as 'being on the board'. In this dominant imaginary, the actual complexity encountered in culturally diverse and resource-rich or environmentally valuable Indigenous domains is best managed (and perhaps only manageable) by technical expertise accredited by the dominant culture.

This approach discredits locally authorised expertise in local knowledge systems. It marginalises or dismisses local understanding, authority and self-determination, and reduces the complex, value-laden task of governance to the ostensibly technical task of management. It rarely accepts that 'no means no' when it is spoken by Indigenous authorities. This is not co-management adapting to coexistence and intercultural context, but rather the reassertion by state agencies of science as a colonising tool. For many of the scientists involved, the need to engage with Indigenous knowledge is self-evident (Woinarski and McDonald, 2011; Ens *et al.*, 2012a,b), but in practice, even when such engagement is attempted, poor intercultural understanding presents a profound challenge to the scientists and community participants involved. Muller (2012) explores the tensions between science and Yolngu knowledge in the Yellow Crazy Ant Eradication Program in north-east Arnhem Land, as a 'two-way management' activity. She concludes that the 'scientific perspective . . . decontextualised this project to be all about the ant . . . [while the Yolngu] analysis contextualises and situates the project, . . . recognising that the ant exists on Yolngu land and within a Yolngu context' (Muller, 2012: 69).

Dominant NRM discourses also push non-science local and Indigenous contributions out of the valued domain of technical management and into the messy and problematic realms of community relations and consultation. This transforms intercultural ignorance, incompetence and incapacity of science, the state, state-accredited technical experts and resource corporations not only into technical expertise, but also the unquestionably legitimate, authoritative and self-accrediting representation of the interests of the general public. This is particularly common in areas of intense settler occupation of Indigenous domains, where the dominant discourse insists so-called loss of

culture represents Indigenous knowledge as diminished and unhelpful to the tasks of caring for country, culture and society (Gibbs, 2009; Howitt and Lunkapis, 2010; Weir, 2011).

Challenging intercultural capacity deficits

Developing a critical understanding of context is foundational to building success in intercultural NRM in the sense of supporting systems that are just and sustainable. In this section, we explore specific elements of the sorts of capacity deficits we seek to highlight, using examples from a range of NRM settings. Recognising different perspectives on the history and the diverse and particular circumstances of co-management, conflict and development in different settings can draw effectively on well-designed and executed research. However, it also requires political and community engagement. Contributors elsewhere in this collection demonstrate that such research is difficult, both methodologically and ethically.

The interface between biophysical sciences, social sciences, sustainability science and Indigenous rights is affected by competing disciplinary cultures, uneven funding regimes and complex politics (Allenby, 2006; Komiyama and Takeuchi, 2006; Wu, 2006; Sobeck and Agius, 2007; Kates, 2011; Leeuw *et al.*, 2012). For critical scholars, the challenge is to perform scholarship in ways that make knowledge, ideas and understanding accessible to groups involved in intercultural NRM systems, and to actively engage with people, institutions and issues being studied in ways that contribute to *processes* of decolonisation. The ethical imperative is to undertake research, publication and engagement in ways that are simultaneously local and accountable within customary governance, and rigorous and credible in robust and disciplined academic debates. Such research must also be coherent and responsive within wider scales of national governance and global economic, political and environmental processes. This marriage of accountabilities across multiple systems and multiple scales is particularly challenging when dominant notions of academic objectivity devalue scholarly work that takes relationships with Indigenous communities seriously in terms of intellectual collegiality and ethical

equality. Suchet-Pearson and her colleagues (Suchet, 1999; Wright *et al.*, 2012; also Suchet-Pearson *et al.* in this issue) point to the serious intercultural, interpersonal and cross-scale dimensions of this challenge, highlighting the embodied and emplaced ways that people engage with each other in intercultural NRM settings to challenge and transform each other's understandings and knowledges. They note that building their understanding of the collaborative spaces for their work took time, effort and trust. Where competing claims on resources and places are at stake, however, time and trust are often in short supply, and effort is expended not in developing building blocks for relationships of trust, but in pursuing predetermined outcomes such as project approval, grant acquittal, and specific conservation or production goals.

Ethical competencies

The discursive spaces operating in intercultural NRM systems require a shift towards new ethical competencies that acknowledge the different values, understanding and priorities that exist within those systems. It is not always possible to link things in ways that seem logical to all participants, and the ability to respect and work with people whose worldviews are 'not just different, but contrary, to one's own' (Allenby, 2006: 8), is an ethical imperative in developing just and sustainable 'two-way' or intercultural NRM systems. Such understanding is necessary both for individual participants and the key institutions involved. This extends to institutional ethics committees, research granting bodies and tenure committees in universities whose researchers are involved in these systems as well as in the NRM institutions and government agencies for community development, environmental protection and economic advancement. In particular, academic institutions under increased performance pressure risk simply forgetting the key lesson, for example, that no research with Indigenous communities is neutral or impartial. Recognising that context is foundational to NRM research in Indigenous domains (e.g. Howitt, 2011) compels researchers and their institutions to recognise and explicitly engage with the ethical foundations and social impacts of their research and to make

considered and accountable choices about conceptual frameworks and research methods.

A range of cross-scale issues also need to be considered (Cash and Moser, 2000; Berkes, 2002, 2006, 2008; Cash *et al.*, 2004; Adger *et al.*, 2005). The preeminence given to the international, national and provincial (sub-national) scales as in resource governance, has ensured that Indigenous authorities struggle to achieve autonomy and recognition at smaller scales in NRM systems, let alone at the cosmological scale to which they are answerable. Using the idea of 'contemporary Indigenous governances', Cross (2008) investigated persistent and emergent institutions, relationships and values that underpin Indigenous claims.

The institutions of Indigenous governance and local authority have often been specifically opposed by state-authorised agencies. In the process, the colonial process erases the scales at which Indigenous and community governance is authorised, contested and held accountable. This scaled politics of erasure creates a legacy of mistrust and misunderstanding. Seeking recognition of local and Indigenous authority is not a question of nostalgia for 'tradition', but recognition that they do exist and influence real-world outcomes. Cross' critique of Australia's formal Indigenous reconciliation process illustrates this in action. It described institutionalised structures and discourses of exclusion, management and marginalisation in which privileging the national scale as the scale of meaning and power demeans the values and responsibilities of more local governances, imposing co-management solutions as largely externally driven rather than as more localised partnerships between equals.

Agius *et al.* provide accounts of the construction of new scales of Indigenous governance in the Native Title processes under way in South Australia (e.g. Agius *et al.*, 2002, 2007) in which that state's Indigenous representative body simply vetoed state imposed practices and structures that privileged state agendas. In that case, South Australia's Aboriginal Legal Rights Movement promoted an iterative, non-linear scale politics that drew state agencies into relationships with dispersed contemporary Indigenous governances across the State. That particular process addressed systemic capacity deficits not only in Indigenous communities,

but also within government agencies, resource industries and academic partners.

Mobilities and spatialities

Policing the movement and behaviours of Indigenous peoples and minority cultural groups has been an important technology in extending state control over natural resources and territory. Both colonial and modern states have defined Indigenous peoples as 'out of place' by granting specific resource and property rights to non-Indigenous people while ensuring those rights were unavailable to the traditional Indigenous owners of the territories in which the resources occurred. This has erased traditional systems of governance and traditional patterns of trade and movement. Australia's dominant discourses of emptiness, occupation and possession (Howitt, 2012) create images of wilderness, insecurity and uncertainty that reinforce the idea that settler (and now national) security and certainty must be built on exercise of power, exclusion and control. In other jurisdictions, similar discourses work in powerful ways when they intersect with dominant NRM practices that privilege economics and (Western) science in NRM decision-making. For example, land use planning, mapping and zoning have emerged as powerful new technologies that state agencies and private corporations use to reinforce their powerful roles in NRM. State mapping and activist counter-mapping have informed key disputes over forest resources in Indonesia and Malaysia (e.g. Peluso, 1995; Cooke, 2003; Doolittle, 2008) and traditional territories and identities in Taiwan (e.g. Chi and Chin, 2012).

Indigenous Australians face a number of disciplining public discourses, whatever their location or practice in space (Prout and Howitt, 2009). If they live in the 'wilderness' of remote Australia they may be judged authentically Indigenous, but criticised by mainstream commentators as being unwilling to participate in the modern, productive and 'settled' economy. Deep colonising in this mode often constructs Indigenous training and employment programmes that are little more than attempts to coerce compliance with the project of modernising colonialism by teaching them the virtues of a western work ethic (Lawrence, 2005), or are designed to position state and industry

parties as good corporate citizens. For Indigenous people in settled rural or urban places, popular discourse challenges their Indigeneity, suggesting that even modest compliance with the state's assimilationist policies renders them inauthentic as Indigenous people, undermining their claims to have a legitimate voice in ownership of country, land use or heritage negotiations (Porter, 2006).

Everyday Indigenous spatialities, however, subvert the hegemonic 'cadastral grid' (Byrne, 2003). To nurture their socio-cultural and spiritual identities, and economic livelihoods, and demonstrate their relationship to country, Indigenous Australian mobilities create connections that respond to contemporary Indigenous governance in many ways. Counter-colonial researchers have increasingly explored how these connections disrupt dominant discourses about Indigenous relationships to kin and country. In a compelling account of Indigenous relationships to country in rural NSW, Byrne (2003) drew upon 'geobiographies' as a methodological tool which provided local Indigenous peoples with a framework for telling their stories of relationship to country from which conventional scholarship had rendered them long since absent. The result was a rich narrative tapestry of how Indigenous relationships to place are renegotiated and their sense of belonging re-made in the midst of change.

The spatial act of traversing the cadastral grid – the act of being mobile – is one way that many Indigenous Australians continue to negotiate their sense of socio-cultural security and belonging. Such mobilities strategically connect them to kin and country (Prout, 2008a,b; Biddle and Prout, 2009) and create spatial and social networks that are foundational for Indigenous peoples' capacity to understand and respond to the challenges of social, economic and environmental change.

Risk landscapes

In Australia, developing official approaches to risk and risk reduction have dominated European understandings of what 'normalcy' or 'safety' means to people. In setting out to limit risks to Indigenous lives, current discourses of risk, exposure, vulnerability and resilience, like longer-standing discourses of service provision

and access, privilege non-Indigenous notions of stability in relationships to place and belonging. Risk assessment conventionally focuses on material property or human health and easily marginalises cultural dimensions of risk (although see Göbel, 2001), erasing existential and cosmological risks that have origin in how well people maintain kinship with sentient and responsive phenomena in landscapes and weather (Stoffle and Arnold, 2008; Veland *et al.*, 2013). Exposure and risks are key concepts in hazards research and policy, and while they conventionally relate to physical hazards, emergency services themselves can expose Indigenous groups to practices that violate Indigenous protocols, thereby putting them in harm's way and increasing socio-cultural vulnerability (Veland *et al.*, 2010). Likewise, vulnerability as measured through economic and educational indicators can devalue or trivialise hazard reduction outside the dominant discourse, while taking attention away from the importance colonisation continues to have in restricting Indigenous rights (Veland *et al.*, 2013). In managing risk through technocratic approaches, Indigenous conceptions of risks originating in the world-as-sentient are easily dismissed as superstitious belief rather than well-founded understanding, while hegemonic claims to understanding what constitutes hazard are institutionalised, and resultant regulatory arrangements bypass and sideline contemporary Indigenous governance institutions, values and understandings. Prioritising scientific and government discourses of risk, purpose and value, inescapably reduces Indigenous participation to compliance with the demands and regulated requirements of dominant discourses of order, purpose and success. Engaging with coexistence in risk management demands a bold approach that recognises and engages with safety and normalcy as they are understood within Indigenous ontologies.

In the context of intercultural NRM systems, questions of security, belonging and risk are central to procedures of NRM governance. Dominant policy models assume that security is best constructed on the basis of certainties constructed within dominant culture discourses and pathologise non-conformist Indigenous values and behaviours, easily constructing Indigenous peoples' ways of being-in-place as a threat to

orderly development and a source of risk at times of stress – particularly during elections when minority interests are easily vilified for political advantage (Comaroff and Comaroff, 2001; Sanders, 2010). Indeed, in the current context of environmental risks arising from climate change, and social risk arising from the social catastrophes experienced in many Indigenous communities in remote Australia, imposed spatial discipline through forced relocations, denial of infrastructure and resources to remote settlements, and constructing certain categories of places and citizens as ‘at risk’ have re-emerged as acceptable policy parameters in government circles (Howitt *et al.*, 2012).

Entrenched approaches and emerging hybrids

Government policies and programmes that further entrench mainstream NRM systems continue to pre-empt the sorts of nation-building identified as foundational to Indigenous autonomy, security and sustainability (e.g. Cornell, 2006). The risk is that pro-Indigenous social, cultural, political and environmental programmes continue being disciplined by states to conform to *economic* development goals defined by the state and dominant, deep-colonising social institutions (e.g. Muller, 2008b). Against this dominant trend, some management plans seek to reduce negative consequences of resource projects for affected Indigenous communities. For example, development of cross-cultural training programmes and more sophisticated community engagement programmes is becoming commonplace in some sectors (Harvey and Brereton, 2005; Doohan, 2008; Solomon *et al.*, 2008). A range of hybrid Indigenous models for land, sea and resource management is emerging in discussion and practice (Langton *et al.*, 2005; Altman, 2007, 2010; Stevens, 2010; Cooke and Vaz, 2011; Hoffmann *et al.*, 2012; Preuss and Dixon, 2012; Weston *et al.*, 2012; Ens *et al.*, 2012b). It remains common, however, for the onus to be placed on Indigenous communities to develop *their* capacities, to benefit from resource extraction. Indigenous training and employment programmes in the mining industry are just some examples of the many corporate attempts to coerce Indigenous people by ‘teaching’ them the virtues of a Western work

ethic (Lawrence, 2005). Fragile discourses of corporate social responsibility have created some opportunities to challenge these assumptions, but these remain tightly bound by regulatory environments that often fail to acknowledge the structural inequalities governing Indigenous peoples’ relationships with the state and private sector (Howitt and Lawrence, 2008; Lawrence, 2009).

One of the more iconic examples of troubled and inappropriate engagement between Indigenous people and corporate interests in Australia was that of the Argyle Diamond Mine located in the remote Northeast Kimberley region of Western Australia. In the late 1980s, the mining company at Argyle signed an agreement with some Aboriginal Traditional Owners which provided specified benefits to local people and withdrew legal challenges to the mine (Dixon and Dillon, 1990). Few commentators would identify Argyle as a site of successful intercultural engagement. However, Doohan’s (2006, 2008, 2013) reframing of the Argyle case considers the role of Indigenous cultural performance and transformative practice. She shows that in the face of conflict and disruption to their world, local Indigenous people enlisted their symbolic representations of power and meaning to initiate processes of culturally appropriate resolution of unfinished business between themselves, their country and miners at Argyle. The mining company, in an effort to ensure the uninterrupted continuation of the mine and an enhancement of their brand, called upon their own performances and cultural practices such as signing Memoranda of Understanding with Aboriginal Traditional Owners and other forms of agreements, incorporating Indigenous practice into their occupational health and safety procedures and holding ceremonies of acknowledgement and completion. In this reading, we see the deployment of multiple strategies of engagement to construct a dynamic hybrid space of industrial mining *and* a site for the contemporary expression of a continuing Aboriginal tradition at Argyle. In the process, Aboriginal traditional owners at Argyle have refined their own intercultural skills, and created a space in which corporate players have been able to develop a different relationship with and understanding of Indigenous culture, its values and its institutions.

Dooohan's multi-layered and inter-contextual approach to the theatre of Argyle identifies the enlivened space of 'Argyle' as both geographically grounded and intercultural. This enlivened space is certainly not one in which government and corporate NRM staff could continue to assume their capacities were sufficient for success. New skills, understandings and values were required to begin changing these culturally challenging opportunities to become successful and sustainable realities. The hybrid performances in health and safety training and agreement-making alongside the use of art, dance and ceremony in a variety of public settings have all facilitated new skill sets at Argyle.

Land use planning

A similar case can be made in state planning agencies, where existing capacity in the form of project assessment and approval, land use zoning and resource allocation practices often erase, restrict and transform Indigenous domains and intercultural spaces of coexistence into domains of state regulation and dominance. Land use planning and project approval processes constitute Indigenous territories as managed land and seascapes subject to legislated planning and development controls. In this way, sophisticated evaluation technologies such as impact assessment prioritise development *approval* (rather than evaluation) and intercultural capacity deficits of state agents and corporate interests (perhaps in combination with self-interest) have imposed loss of Indigenous peoples' rights, property and prospects. In many jurisdictions, state and corporate planners advocate participatory planning while simultaneously denying histories of exclusion, marginalisation and racism in their areas of responsibility. As an example of such capacity deficits, one need only consider the ways NRM, land use and development planning systems construct consensus as a top-down insistence on conformity to a formulation of the public interest that is hostile to local Indigenous values. In such culturally incompetent systems, compliance is secured at the cost of cultural diversity, traditional and customary rights, and equitable participation in and access to benefits and opportunities of development processes.

Culturally competent social impact assessment can offer a range of tools to facilitate analysis, monitoring and management of the social consequences of development and conservation (Cosslett *et al.*, 2004). One of its tools, community mapping, offers a means of harnessing new technology to translate Indigenous land use and knowledge systems into language that is understood by a state government (Peluso, 1995; Chapin *et al.*, 2005). Lunkapis (2010, see also Howitt and Lunkapis, 2010) suggests combining these tools to challenge the dominant land use and natural resource governance systems in a powerful critique based on his own experiences as an Indigenous citizen and state town planner. He uses Sabahan town planning systems as a point of departure to critically analyse how community mapping and social impact assessment can enhance Indigenous self-determination, self-governance and public participation (Loomis, 2000; Ridder and Pahl-Wostl, 2005; Xanthaki, 2007) in the planning process. Generating community mapping and social impact assessment frameworks that adequately represent Indigenous values, experiences and rights in NRM decisions remains difficult and uneven. However, open communication between critical social researchers, state regulators, resource developers and Indigenous groups to support equitable and collaborative learning processes, and secure rather than erase Indigenous institutions and authority on the ground, is a necessary challenge not only to those conducting the programmes but also scholarly practice.

Co-motion? Embracing commotion in intercultural NRM systems

In this final section, we seek to draw on our earlier discussion to offer a way through some of the chaos and commotion experienced in intercultural NRM systems using the notion of co-motion as a framing tool. In Australia, NRM management settings with Indigenous people working in locally governed institutions are increasingly common. Securing outcomes in which local Indigenous institutions hold sway, however, requires substantial local administration and documentation and is dominated by mainstream NRM frameworks that marginalise intangible elements of caring for country as

'cultural' while denying the cultural construction of dominant understandings of NRM (Weir, 2009; Muller, 2012, see also Wohling, 2009). State powers are reinforced by scientific discourses that assert the primacy of scientific objectivity and undermine Indigenous authority in the NRM domain (Palmer, 2004). Consequently, those Indigenous activities that do not challenge dominant cultural views are more readily granted approval and even support (Gibbs, 2003), with governments assigning significance to familiar rather than alien priorities. The 'incomprehensible' (O'Malley, 1998), 'illegible' (Christie, 2007) or 'invisible' (Howitt, 2001) components of contemporary Indigenous governances are thus ignored through a technology of erasure within formal administrative structures and processes. While Indigenous NRM groups are able to act, their own ontological frameworks are erased from the administrative structures (Muller, 2008a). Recognition and success are only based on how Indigenous practices of caring for country can contribute to authorised and approved NRM outcomes (May, 2010). Moorcroft *et al.* (2012) discuss the emergence of an innovative collaborative model for resource and environmental management between western conservation scientists and Wunambal Gaambera people on the remote north Kimberley coast. They identify working on the ground with local people (planning on country), utilising Indigenous governance structures, using flexible time frames, including regular feedback, and using appropriate language as central to the effectiveness of the recently completed *Uunguu Healthy Country Plan* (Moorcroft *et al.*, 2012). Their work exemplifies the sorts of intercultural competencies required to shift away from deep colonising planning and management frameworks. A measure of success will be if the Traditional Owners of this country can sustain their ontological and epistemological frames through the measurement tools and indicators of health and/or the hybrid relations that might evolve between the demands of western scientific models and the Wunambal Gaambera people.

Both scientific and sustainability discourses often position Indigenous knowledges as 'lacking' answers or being outside meaningful or measurable terms. They assume the need for externally authorised and universally relevant

knowledge. Indigenous knowledge is thus assessed for the 'facts' it can contribute to the management process, for its objective components rather than its performance (Muller, 2012). Through such a lens, Indigenous knowledge cannot be acknowledged as a complete epistemology. Privileging state administrative and legislative systems have led to a co-optation of the caring for country agenda to be about NRM. In Yolngu domains in northeast Arnhem Land, for example, legislative and administrative procedures have erased Yolngu processes of governance and accountability (Muller, 2012).

The unruly, intangible, illegible and often invisible elements of Indigenous connections between people and country are not easy to integrate into universal scientific or administrative processes, although they sometimes are measured as 'art'. Indeed, their very presence is often assumed to be an inappropriate and messy indication of chaos and commotion. Yet this perceived commotion is actually part of a prescribed system of law and regulation that has been the foundation of Indigenous worldviews and is essential for self-determination. It is therefore foundational to intercultural NRM systems. Esteva (1987) uses the idea of co-motion to characterise the hard work of bringing such incommensurate systems together, to work through what it means to move together towards more just and sustainable outcomes. Muller (2008c) (re)frames Indigenous land and sea management to prioritise the idea of co-motion as a goal for co-management processes involving Indigenous and dominant society institutions. While it might be inevitable that 'co-moting' will produce commotion as different worldviews struggle to understand and live with each other, this co-motion will both facilitate and demand increased intercultural competence from all involved – not just from Indigenous parties.

Towards intercultural competence in NRM

Where state and private agencies are neither required nor able to demonstrate capacity to understand and respond respectfully and honestly to the worldviews and priorities of local minority and Indigenous populations implicated in intercultural NRM systems, their intercultural capacity deficits will further reinforce

the erasure of otherwise robust and persistent foundations for sustainability and self-determination represented by diverse local systems of knowledge and care. Training, recognition and resources need to be provided within the dominant institutions to foster intercultural understanding and competence as well as ensuring that adaptive systems recognise the need to adapt to socio-cultural as well as biophysical circumstances. This is not to dismiss existing systems of 'two-way' NRM (Yunupingu and Muller, 2009), or to advocate disinvestment in emerging hybrid and intercultural systems. Without both explicit spaces for self-determined and self-managed accountability systems and processes, and increased commitment to new skills, knowledge, values and understanding, intercultural NRM systems will be unable to pursue transformation of unsustainable and unjust practices and processes. The challenge of Esteva's call for co-motion is to reimagine institutions in which state parties can provide resources and power to Indigenous groups even in situations where governments and their advisors do not understand the ontological underpinnings of Indigenous action; and in which intercultural capacity building is seen as an ongoing requirement for *all* parties, rather than just local Indigenous partners as a condition for them being accepted as partners.

Persistently weak intercultural capacity and significant capacity deficits within NRM institutions, and the consequences of intercultural incompetence in those systems, are significant challenges even in relatively successful co-management systems. This paper has reviewed a range of Indigenous experience in NRM in Australia and Malaysia in particular, to insist that such capacity deficits must be recognised and addressed in both policy and practice. We invite debate, disagreement and, most importantly, improvement in the ideas and methods discussed here as a step forward in strengthening critical scholarly engagement and praxis with these issues and fields of engagement.

In areas of Indigenous policy and multicultural settings, the political agenda for social inclusion has very often emphasised questions of knowledge, skills and understanding through capacity building that has been directed at local communities rather than developer or regula-

tory institutions. In light of our aforementioned discussion, we not only endorse continued expansion of Indigenous capacity to understand and deal with the dominant society's cultural requirements through education and other opportunities, but also insist on the urgent need to address the capacity deficits of universities, government agencies, resource corporations, NRM institutions (including Indigenous organisations themselves) and our own scholarly disciplines. It must become a priority of scholars, discipline bodies, universities and others to overcome capacity deficits and increase intercultural competence along with ethical, scientific, social and economic knowledge, skills and understanding to ensure that responses to emergent risks and opportunities do not simply re-inscribe injustice, inhumanity and deep ecological and cultural wounds on already traumatised peoples and scarred landscapes of coexistence. The realities of messy, conflictual, awkward and fragile geographies of coexistence create a unique challenge – and opportunity – for engaged social and environmental scholarship. It is to produce critical ideas that equip intercultural NRM institutions and their staff to see, think and act more coherently, more responsibly, more generously and more equitably towards just, sustainable and inclusive futures.

Acknowledgements

Earlier versions of this paper were delivered at meetings in Saskatoon, Canada (June 2009), Christchurch, New Zealand (July 2009) and Kota Kinabalu, Malaysia (June 2011). We are grateful to colleagues, commentators and our referees for their criticism of earlier versions. We are particularly grateful to Fiona Miller for her patient insistence on a tighter focus to bring this paper to its current form.

Notes

- 1 Responding to these challenges has been an important element of recent efforts towards 'reconciliation' in many jurisdictions. It is beyond the scope of this paper to review that literature in detail, but the work of Bhandar (2004), Short (2003a,b), 2005), Gibson (2004, 2005, 2006; Gibson and Claassen, 2010), and Corn tassel (2012) offers important windows on the debates.

- 2 The term 'deep colonising' is drawn from Rose (1999) and refers to those unintended consequences of well-intentioned activities such as policy reform or research which reinforce rather than challenge colonial relationships and power structures.

References

- Adger, W.N., K. Brown and E.L. Tompkins (2005) The political economy of cross-scale networks in resource co-management, *Ecology and Society* 10(2): 9. Retrieved 26 June 2013, from <http://www.ecologyandsociety.org/vol10/iss2/art9/>.
- Agius, P., J. Davies, R. Howitt and L. Johns (2002) Negotiating comprehensive settlement of native title issues: Building a new scale of justice in South Australia, *Land, Rights, Laws: Issues of Native Title* 2(20): 1–12.
- Agius, P., T. Jenkin, S. Jarvis, R. Howitt and R. Williams (2007) (Re)asserting indigenous rights and jurisdictions within a politics of place: Transformative nature of native title negotiations in South Australia, *Geographical Research* 45(2): 194–202.
- Allenby, B. (2006) Macroethical systems and sustainability science, *Sustainability Science* 1(1): 7–13.
- Altman, J. (2010) Alternate development for indigenous territories of difference in remote Australia. Workshop on 'Negotiation of Indigenous Identities: Comparative study on Indigenous People among national and international environment'. National Museum of Ethnology, Osaka.
- Altman, J.C. (2007) The Significance of the Indigenous Estate: Natural resource management as economic development in remote Australia. CAEPR Discussion Paper 286/2007. Canberra: Centre for Aboriginal Economic Policy Research, Australian National University.
- Barbour, W. and C. Schlesinger (2012) Who's the boss? Post-colonialism, ecological research and conservation management on Australian Indigenous lands, *Ecological Management & Restoration* 13(1): 36–41.
- Berkes, F. (2002) Cross-scale institutional linkages: Perspectives from the bottom up, in E. Ostrom (ed.), *The drama of the commons*, pp. 293–321. Washington: National Academy Press.
- Berkes, F. (2006) From community-based resource management to complex systems: The scale issue and marine commons, *Ecology and Society* 11(1): 45. Retrieved 26 June 2013, from <http://www.ecologyandsociety.org/vol11/iss41/art45/>.
- Berkes, F. (2008) Commons in a multi-level world, *International Journal of the Commons* 2(1): 1–6.
- Berkes, F. (2009) Evolution of co-management: Role of knowledge generation, bridging organizations and social learning, *Journal of Environmental Management* 90(5): 1692–1702.
- Bhandar, B. (2004) Anxious reconciliation(s): Unsettling foundations and spatializing history, *Environment and Planning D: Society and Space* 22(6): 831–845.
- Biddle, N. and S. Prout (2009) Indigenous temporary mobility: An analysis of the 2006 Census snapshot. Retrieved August 2011, from <http://caepr.anu.edu.au/Publications/WP/2009WP55.php>. CAEPR Working Paper 55/2009. Canberra: Centre for Aboriginal Economic Policy Research, Australian National University.
- Byrne, D. (2003) The ethos of return: Erasure and reinstatement of aboriginal visibility in the Australian historical landscape, *Historical Archaeology* 37(1): 73–86.
- Cash, D.W., W.N. Adger, F. Berkes et al. (2004) *Scale and cross-scale dynamics: Governance and information in a multilevel world*. Millenium Ecosystem Assessment Bridging Scales Conference. Alexandria, Egypt.
- Cash, D.W. and S.C. Moser (2000) Linking global and local scales: Designing dynamic assessment and management processes, *Global Environmental Change* 10(2): 109–120.
- Chapin, M., Z. Lamb and B. Threlkeld (2005) Mapping indigenous lands, *Annual Review of Anthropology* 34(1): 619–638.
- Chi, C.-C. and H.-T. Chin (2012) Knowledge, power, and tribal mapping: A critical analysis of the 'return of the Truku people', *GeoJournal* 77(6): 733–740.
- Christie, M. (2007) Knowledge management and natural resource management, in M.K. Luckert, B. Campbell and J.T. Gorman (eds), *Investing in indigenous natural resource management*, pp. 86–90. Darwin: Charles Darwin University Press.
- Comaroff, J. and J.L. Comaroff (2001) Naturing the nation: Aliens, apocalypse and the postcolonial state, *Journal of Southern African Studies* 27(3): 627–651.
- Cooke, F.M. (2003) Maps and Counter-Maps: Globalised imaginings and local realities of Sarawak's plantation agriculture, *Journal of Southeast Asian Studies* 34(2): 265–284.
- Cooke, F.M. and J. Vaz (2011) *The Sabah ICCA Review: A review of Indigenous Peoples' and Community Conserved Areas in Sabah (Report submitted to the Japan International Cooperation Agency (JICA) as part of the project traditional Ecological Knowledge in Sabah, under the Bornean Biodiversity and Ecosystems Conservation Phase II Programme*. Kota Kinabalu: Global Diversity Foundation.
- Cornell, S. (2006) What Makes First Nations Enterprises Successful? Lessons from the Harvard Project. *Joint Occasional Papers on Native Affairs*, Cambridge and Tucson: The Harvard Project on American Indian Economic Development and the Native Nations Institute for Leadership, Management and Policy.
- Corntassel, J. (2012) Indigenous peoples, climate change, empire, collapse of civilization, resurgence, liberation, *Decolonization: Indigeneity, Education & Society* 1(1): 86–101.
- Cosslett, C., D. Buchan and J. Smith (2004) *Assessing the social effects of conservation on neighbouring communities: Guidelines for Department of Conservation staff*. Wellington: DOC Science Publishing.
- Cross, S. (2008) *The Scale Politics of Reconciliation*. PhD Dissertation. Sydney: Department of Human Geography, Macquarie University.
- Dixon, R. and M. Dillon (1990) *Aborigines and Diamond Mining: The politics of resource development in the East Kimberley, Western Australia*. Nedland: University of Western Australia Press.

- Doohan, K. (2006) *'Making things come good': Aborigines and miners at argyle*. New South Wales: Department of Human Geography, Macquarie University.
- Doohan, K. (2008) *Making things come good: Relations between Aborigines and miners at Argyle*. Broome: Backroom Books.
- Doohan, K. (2013) Transformative practices: Imagining and enacting relationships in the context of resource development, the Argyle case, *Asia Pacific Viewpoint* 54(2): 218–231.
- Doolittle, A. (2008) Stories and maps, images and archives: Multimethod approach to the political ecology of native property rights and natural resource management in Sabah, Malaysia. *Environmental Management* 45(1): 67–81.
- Ens, E. and T. McDonald (2012) Caring for country: Australian natural and cultural resource management, *Ecological Management & Restoration* 13(1): 1–1.
- Ens, E.J., M. Finlayson, K. Preuss, S. Jackson and S. Holcombe (2012a) Australian approaches for managing 'country' using Indigenous and non-Indigenous knowledge, *Ecological Management & Restoration* 13(1): 100–107.
- Ens, E.J., G.M. Towler, C. Daniels, R. Mangi and R. The Manwurrk (2012b) Looking back to move forward: Collaborative ecological monitoring in remote Arnhem Land, *Ecological Management & Restoration* 13(1): 26–35.
- Esteva, G. (1987) Regenerating people's space, *Alternatives* XII: 125–152.
- Finn, M. and S. Jackson (2011) Protecting indigenous values in water management: A challenge to conventional environmental flow assessments, *Ecosystems* 14(8): 1232–1248.
- Gibbs, L.M. (2009) Water places: Cultural, social and more-than-human geographies of nature, *Scottish Geographical Journal* 125(3–4): 361–369.
- Gibbs, M. (2003) Indigenous rights to natural resources in Australia and New Zealand: Kereru, dugong and pounamu, *Australasian Journal for Environmental Management* 10(3): 138–151.
- Gibson, J.L. (2004) Does truth lead to reconciliation? Testing the causal assumptions of the south african truth and reconciliation process, *American Journal of Political Science* 48(2): 201–217.
- Gibson, J.L. (2005) The truth about truth and reconciliation in South Africa, *International Political Science Review* 26(4): 341–361.
- Gibson, J.L. (2006) The contributions of truth to reconciliation: Lessons from South Africa, *Journal of Conflict Resolution* 50(3): 409–432.
- Gibson, J.L. and C. Claassen (2010) Racial reconciliation in South Africa: Interracial contact and changes over time, *Journal of Social Issues* 66(2): 255–272.
- Göbel, B. (2001) Risk and culture in the Andes: Differences between indigenous and Western developmental perspectives, *Research in Social Problems and Public Policy* 9: 191–220.
- Harvey, B. and D. Brereton (2005) *Emerging Models of Community Engagement in the Australian Minerals Industry*. International Conference on Engaging Communities. Brisbane: Centre for Socially Responsible Mining, University of Queensland.
- Hoffmann, B.D., S. Roeger, P. Wise et al. (2012) Achieving highly successful multiple agency collaborations in a cross-cultural environment: Experiences and lessons from Dhimurru Aboriginal Corporation and partners, *Ecological Management & Restoration* 13(1): 42–50.
- Howitt, R. (2001) *Rethinking resource management: Justice, sustainability and indigenous peoples*. London: Routledge.
- Howitt, R. (2011) Knowing/doing, in V.J. Del Casino Jr, M.E. Thomas, P. Cloke and R. Panelli (eds), *A companion to social geography*, pp. 131–145. Chichester: Wiley-Blackwell.
- Howitt, R. (2012) Sustainable indigenous futures in remote Indigenous areas: Relationships, processes and failed state approaches, *Geojournal* 77(6): 817–828.
- Howitt, R., O. Havnen and S. Veland (2012) Natural and unnatural disasters: Responding with respect for indigenous rights and knowledges, *Geographical Research* 50(1): 47–59.
- Howitt, R. and R. Lawrence (2008) Indigenous peoples, corporate social responsibility and the fragility of the interpersonal domain, in C. O'Faircheallaigh and S. Ali (eds), *Earth matters: Indigenous peoples, the extractive industries and corporate social responsibility*, pp. 83–103. Sheffield: Greenleaf Publishing.
- Howitt, R. and G.J. Lunkapis (2010) Coexistence: Planning and the challenge of indigenous rights, in J. Hillier and P. Healey (eds), *Ashgate research companion to planning theory*, pp. 109–133. Farnham: Ashgate.
- Howitt, R. and S. Suchet-Pearson (2003) Ontological pluralism in contested cultural landscapes, in K. Anderson, M. Domosh, S. Pile and N. Thrift (eds), *Handbook of cultural geography*, pp. 557–569. London: Sage.
- Howitt, R. and S. Suchet-Pearson (2006) Rethinking the building blocks: Ontological pluralism and the idea of 'management', *Geografiska Annaler: Ser B, Human Geography* 88(3): 323–335.
- Kates, R.W. (2011) What kind of a science is sustainability science, *Proceedings of the National Academy of Sciences of the United States of America* 108(49): 19449–19450.
- Komiyama, H. and K. Takeuchi (2006) Sustainability science: Building a new discipline, *Sustainability Science* 1(1): 1–6.
- Langton, M., Z.M. Rhea and L. Palmer (2005) Community-oriented protected areas for indigenous peoples and local communities, *Journal of Political Ecology* 12: 23–50.
- Lawrence, R. (2005) Governing warlpiri subjects: Indigenous employment and training programs in the central Australian mining industry, *Geographical Research* 43(1): 40–48.
- Lawrence, R. (2009) *Shifting responsibilities and shifting terrains: State responsibility, corporate social responsibility and indigenous claims*. Sydney: Department of Sociology, Stockholm University and Department of Environment & Geography, Macquarie University.
- Leeuw, S., A. Wiek, J. Harlow and J. Buizer (2012) How much time do we have? Urgency and rhetoric in sustainability science, *Sustainability Science* 7(1): 115–120.

- Lays, A.J. and J.K. Vanclay (2011) Social learning: A knowledge and capacity building approach for adaptive co-management of contested landscapes, *Land Use Policy* 28(3): 574–584.
- Loomis, T.M. (2000) Indigenous populations and sustainable development: Building on indigenous approaches to holistic, self-determined development, *World Development* 28(5): 893–910.
- Lunkapis, G.J. (2010) *Understanding land use and natural resources (LUNaR) Governance: A case study of Sabah, Malaysia*. Sydney: Department of Environment & Geography: Macquarie University.
- Marika, R., Y. Yunupingu, R. Marika-Mununggiritj and S. Muller (2009) Leaching the poison – The importance of process and partnership in working with Yolngu, *Journal of Rural Studies* 25(4): 404–413.
- May, K. (2010) Government support for Indigenous cultural and natural resource management in Australia: The role of the Working on Country program, *Australian Journal of Social Issues* 45(3): 395–416.
- Moorcroft, H., E. Ignjic, S. Cowell et al. (2012) Conservation planning in a cross-cultural context: The Wunambal Gaambera Healthy Country Project in the Kimberley, Western Australia, *Ecological Management & Restoration* 13(1): 16–25.
- Muller, S. (2008a) Accountability constructions, contestations and implications: Insights from working in a yolngu cross-cultural institution, Australia, *Geography Compass* 2(2): 1–19.
- Muller, S. (2008b) Community-based management of Saltwater Country, Northern Australia, *Development* 51: 139–143.
- Muller, S. (2008c) *Making Space to Care for Country*. Department of Human Geography. Sydney: Macquarie University.
- Muller, S. (2012) 'Two Ways': Bringing indigenous and non-indigenous knowledges together, in J. Weir (ed.), *Country, native title and ecology*, pp. 59–79. Canberra: ANU ePress.
- Natcher, D.C., S. Davis and C.G. Hickey (2005) Co-management: Managing relationships, not resources, *Human Organization* 64(3): 240–250.
- Nurse-Bray, M., H. Marsh and H. Ross (2010) Exploring discourses in environmental decision making: An Indigenous hunting case study, *Society and Natural Resources* 23(4): 366–382.
- O'Malley, P. (1998) Indigenous governances, in M. Dean and B. Hindess (eds), *Governing Australia: Studies in contemporary rationalities of government*, pp. 156–172. Melbourne: Cambridge University Press.
- Palmer, L. (2004) Fishing lifestyles: 'Territorians', traditional owners and the management of recreational fishing in Kakadu National Park, *Australian Geographical Studies* 42(1): 60–76.
- Peluso, N.L. (1993) Coercing conservation?: The politics of state resource control, *Global Environmental Change* 3(2): 199–217.
- Peluso, N.L. (1995) Whose woods are these? Counter-mapping forest territories in Kalimantan, Indonesia, *Antipode* 27(4): 383–406.
- Porter, L. (2006) Rights or Containment? The politics of Aboriginal cultural heritage in Victoria, *Australian Geographer* 37(3): 355–374.
- Preuss, K. and M. Dixon (2012) 'Looking after country two-ways': Insights into Indigenous community-based conservation from the Southern Tanami, *Ecological Management & Restoration* 13(1): 2–15.
- Prout, S. (2008a) *The entangled relationship between Indigenous spatiality and government service delivery*. Canberra: Centre for Aboriginal Economic Policy Research, Australian National University.
- Prout, S. (2008b) *On the move? Indigenous temporary mobility practices in Australia*. Canberra: Centre for Aboriginal Economic Policy Research, Australian National University.
- Prout, S. and R. Howitt (2009) Frontier imaginings and subversive Indigenous spatialities, *Journal of Rural Studies* 25(4): 396–403.
- Ridder, D. and C. Pahl-Wostl (2005) Participatory Integrated Assessment in local level planning, *Regional Environmental Change* 5(4): 188–196.
- Rose, D.B. (1999) Indigenous ecologies and an ethic of connection, in N. Low (ed.), *Global ethics and environment*, pp. 175–187. London: Routledge.
- Sanders, W. (2010) Ideology, evidence and competing principles in Australian Indigenous affairs: From Brough to Rudd via Pearson and the NTER, *Australian Journal of Social Issues* 45(3): 307–331.
- Short, D. (2003a) Australian 'Aboriginal' reconciliation: The latest phase in the colonial project, *Citizenship Studies* 7(3): 291–312.
- Short, D. (2003b) Reconciliation, assimilation, and the indigenous peoples of Australia, *International Political Science Review* 24(4): 491–513.
- Short, D. (2005) Reconciliation and the problem of internal colonialism, *Journal of Intercultural Studies* 26(3): 267–282.
- Sobeck, J. and E. Agius (2007) Organizational capacity building: Addressing a research and practice gap, *Evaluation and Program Planning* 30(3): 237–246.
- Solomon, F., E. Katz and R. Lovel (2008) Social dimensions of mining: Research, policy and practice challenges for the minerals industry in Australia, *Resources Policy* 33(3): 142–149.
- Stevens, S. (2010) Implementing the UN Declaration on the Rights of Indigenous Peoples and international human rights law through the recognition of ICCAs, *Policy Matters* 17: 181–194.
- Stewart-Harawira, M. (2005) *The new imperial order: Indigenous responses to globalization*. London, New York and Wellington: Zed Books and Huia Publishers.
- Stoffle, R. and R. Arnold (2008) *Facing the unimaginable: The limits of resilience and the risk society*. Barcelona: First International Sociology Association Forum on 'Sociology and Public Debate'.
- Suchet, S. (1999) *Situated Engagement: A critique of wildlife management and postcolonial discourse*. Sydney: Department of Human Geography, Macquarie University.
- Suchet-Pearson, S. and R. Howitt (2006) On teaching and learning resource and environmental management:

- Reframing capacity building in multicultural settings, *Australian Geographer* 37(1): 117–128.
- Turnhout, E. (2010) Heads in the clouds: Knowledge democracy as a Utopian dream, in R.J. in 't Veld (ed.), *Knowledge Democracy*, pp. 25–36. Heidelberg: Springer Berlin.
- Veland, S., R. Howitt and D. Dominey-Howes (2010) Invisible institutions in emergencies: Evacuating the remote Indigenous community of Waruwi, Northern Territory Australia, from Cyclone Monica, *Environmental Hazards: Human and Policy Dimensions* 9(2): 197–214.
- Veland, S., R. Howitt, D. Dominey-Howes, F. Thomalla and D. Houston (2013) Procedural vulnerability: Understanding environmental change in a remote indigenous community, *Global Environmental Change* 23(1): 314–326.
- Weir, J. (2009) *Murray River Country: An ecological dialogue with traditional owners*. Canberra: Aboriginal Studies Press.
- Weir, J. (2011) Water planning and dispossession, in D. Connell and R.Q. Grafton (eds), *Basin futures*, pp. 179–191. Canberra: ANU ePress.
- Weston, N., C. Bramley, J. Bar-Lev, M. Guyula and S. O’Ryan (2012) Arafura three: Aboriginal ranger groups protecting and managing an internationally significant swamp, *Ecological Management & Restoration* 13(1): 84–88.
- Wohling, M. (2009) The problem of scale in indigenous knowledge: A perspective from Northern Australia, *Ecology and Society* 14(1): 1. Retrieved 26 June 2013, from <http://www.ecologyandsociety.org/vol14/iss11/art11>.
- Woinarski, J. and T. McDonald (2011) Grappling with the unthinkable: Small mammal extinctions spreading to northern Australia, *Ecological Management & Restoration* 12(1): 6–12.
- Wright, S., K. Lloyd, S. Suchet-Pearson, L. Burarrwanga and M. Tofa (2012) Telling stories in, through and with Country: Engaging with Indigenous and more-than-human methodologies at Bawaka, NE Australia, *Journal of Cultural Geography* 29(1): 39–60.
- Wu, J. (2006) Landscape ecology, cross-disciplinarity, and sustainability science, *Landscape ecology* 21(1): 1–4.
- Xanthaki, A. (2007) *Indigenous rights and United Nations standards self-determination, culture and land*, Cambridge, UK. New York: Cambridge University Press.
- Yunupingu, D. and S. Muller (2009) Cross-cultural challenges for Indigenous sea country management in Australia, *Australasian Journal of Environmental Management* 16(3): 158–167.

Copyright of Asia Pacific Viewpoint is the property of Wiley-Blackwell and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.