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EDITORIAL

Knowledge management and climate change

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EuforicSevices.com and Westhill Knowledge Group

This thematic issue focuses on knowledge management in the context of climate change and international development. It marks a return of this journal to the open access model, welcomed by one of its founders, Peter Ballantyne, in his recent blog post *Knowledge management and climate change: The KM4D Journal reborn open access*[1]. This issue presents eight contributions from the Knowledge Management for Development (KM4Dev) community (www.km4dev.org) that highlight methods, practice and experience of climate change and international development knowledge management in sectors including natural resources management, food security, agriculture, community planning, organisational development and adaptation. The geographical scope drawn on is wide, covering experience from Africa, Canada, the Solomon Islands, and programs that span multiple regions from Asia to Latin America. What these contributions have in common is an enthusiasm to share practical lessons of knowledge management approaches that consciously use mixed methods to respond to the atypical and complex challenge presented by climate change. After this editorial, there is also a further editorial by Sarah Cummings, Editor-in-Chief, in which she responds to Peter's Ballantyne's blog post and provides some background on the return to open access.

The paper by **Tanner and colleagues** documents a climate change learning programme with policy advisers of the UK Department for International Development (DFID) that combined external facilitation by academics with staff knowledge exchange, reflection and problem solving to co-produce knowledge. Focusing on work in the Pacific supported by the Australian Agency for International Development (AusAID), **Picollela** reveals how community based processes of participatory mapping resulting in a 3D scaled and geo-referenced relief model help integrate indigenous and scientific knowledge systems of climate change adaptation. Focusing on the AfricaAdapt project supported by International Development Research Council (IDRC), Canada, and DFID, **Harvey and Fisher** explore the partnership dynamics of designing and implementing a climate change adaptation knowledge sharing network that used online, face-to-face, radio, video and traditional publishing methods. Reviewing a climate change and development knowledge network, **Clappison and colleagues** highlight that even with the right content and tools, sharing will stall if relationships fail and incentives are misaligned. In a final paper, **Hammill and colleagues** take this issue further in their review of the important intermediary role online climate

knowledge brokers (CKB) and knowledge brokering platforms can play in linking the production and use of knowledge needed for action on climate change. **Baquet**'s case study reflects on using face-to-face events and communities of practice to support a series on integrating climate change and natural resource management into the US Agency for International Development (USAID) Feed the Future programme. In a case study, **Wettasinha and Waters-Bayer** share experience from PROLINNOVA's work with farmers, researchers and development agents supporting vulnerable agricultural communities adapting to climate change through participatory innovation through workshops, fairs, training and online knowledge exchange. **Laurie**'s Short Story explores how knowledge translation across scales and community prioritisation can produce valid local adaptation plans. This issue also includes a brief bibliography, compiled by **Cranston and Jackson** that consolidates all the materials referenced in the eight papers for easy follow-up reading.

The atypicality of climate change

As editors inviting contributions to this special thematic issue, we were keen to see if authors could shed more light on two factors that appear to be important to the consideration of knowledge management in this domain. The first of these factors is the assumption that climate change as a knowledge domain within the development sector should be seen as atypical compared to other sectors (i.e. irregular compared to the average) because of:

- The speed with which knowledge is emerging because as a relatively recent area of research, policy and practice the potential for the stock of knowledge to grow exponentially is much greater than in more mature areas
- Being a wicked problem that has multiple causes, interdependencies, dynamic elements and consequences that are hard to foresee or define
- Requiring a high degree of contextualisation to make evidence and recommendations drawn from pure science (e.g. climate modelling) relevant to local conditions
- Requiring a highly iterative process of knowledge uptake because of the highly social / behavioural factors that enable / disable effective use of new tools and approaches
- Its uncertainty (e.g. of impact attribution, regulation, financing) and novelty (of political, social and technological responses)

Climate change is not uniquely atypical as several other sectors of international development (e.g. conflict, fragile states, humanitarian crises and disasters) also share many of these atypical features. Experience with managing knowledge in these contexts is likely to be relevant to climate change and development. Although the papers submitted only glance at some of these sectors, more cross-learning between knowledge managers in these atypical areas would certainly be warranted.

Complexity

The second factor that appeared to us to be important for considering knowledge management in this domain was complexity. International development can be characterised as presenting a particularly complex operating environment for action on climate change. As such we felt

that insights from complexity science can assist in understanding what is common and important in how climate change action within international development differs from other sectors. Complex situations do not respond well to monolithic or catchall responses. Rather they call for a multimodal response by networks and organisations that provide a range of options for people in different circumstances based on a bounded pluralism of methods and approaches dynamically selected over time. Jones (2011) argues that when dealing with complex problems the issue is often about people using the wrong tools for the job. Actors need the capability to select and use tools that can handle interdependent problems, navigate nonlinear / unpredictable change processes and involve diverse stakeholders because:

1. Problems are distributed, manifesting themselves in different ways and at different levels:

> *Rather than one organisation or hierarchy being fully in control of meeting a particular objective, action may rely on differing degrees of collaboration from a variety of actors*. (Jones, 2011: viii)

2. Problems are difficult to predict when causality is hard to understand:

> *…success may rely on adaptation and flexibility to emerging insights, rather than trying to completely fix the shape of policy responses in advance*. (Jones, 2011: viii)

3. Problems involve conflicting goals because equally plausible interpretations of a policy issue will exist, with different groups approaching it from different starting points or assumptions:

> *Implementation cannot be technocratic, but requires a negotiated understanding and synthesis through communicative processes*. (Jones, 2011: viii)

Networked learning, complexity and climate change

Some of the most successful components of networked learning initiatives in atypical knowledge domains are the spontaneous group conversations that are a common feature of networks, the opportunities provided for staff to share their own learning and open communities of practice (Jackson, 2011). Moreover, networks that are truly open (as opposed to internal to the organisation) can be very successful for this kind of learning. True networks are open not just in the literal sense that anyone can join, but in the practical sense that as they grow they do not become more centralised but rather scale out freely with more linkages creating more nodal hubs. This leads to a very helpful property if one accepts the premise of the inherent complexity of climate change within international development and the high likelihood that mistakes will be made in the face of unpredictability. This is the property of a high degree of tolerance to faults, meaning that if one linkage is broken or node is removed, there will be a number of other efficient pathways by which the connection can still be made within the network. Bringing the focus back to knowledge management and climate change, open networks and communities of practice are much more successful at connecting those with unusual questions to those with unusual experience and the motivation to share it in complex situations because they do not artificially populate or bound membership (Jackson

ibid). Open networks and networking opportunities of many kinds feature prominently in the experiences shared by our contributors to this issue of the journal.

An evaluation framework

Given that the range and mixture of methods that potentially respond to the atypical and complex challenge presented by climate change and international development we conclude this editorial by proposing a preliminary evaluation framework (see Table 1). This framework could be built upon to assess the capacity of networks, organisations and initiatives managing climate change for development knowledge:

Table 1: A proposed evaluation framework

Capacity	Indicator
Facilitates decentralised action and self-organisation	Flat governance with principles for action rather than rules and centralised management
Builds space for interventions to be flexible to emerging lessons	Encourages systematic reflection on experience for learning and iterative and creative implementation rather than linear delivery modes and trying to completely fix the shape of policy responses in advance
Allows for negotiation between and synthesis of multiple perspectives	Democratic views on whose knowledge and values count and awareness of issues of power and exclusion in communicative processes rather than expert / outsider dominated knowledge production
They are open fault tolerant systems so that if any one institution, project or grant fails then the institution/network can adapt and find new ways to work and they do not artificially populate or bound membership	As they grow they scale out freely with more linkages creating more nodal hubs easily spawn sub-groups or communities of practice rather than becoming more centralised
Provide options that are enabling for people in different circumstances	A bounded pluralism of methods and approaches dynamically selected over time rather than elimination of duplicates and narrow best practice approaches
Handle interdependent problems	Proactively seek diversity in stakeholders and assume the need to navigate nonlinear / unpredictable change processes
Facilitate differing degrees of collaboration from a variety of actors	Create circles of participation that actors can occupy and move between informally as their circumstances demand / change

Source: Authors

Our thanks

We would like to thank all of the contributors who have written papers for this issue, all of the peers who reviewed papers and provided feedback to authors, the very supportive Editorial team and all of those who submitted abstracts but were in the end too busy actually *doing* KM4Dev to be able to write up full articles.

Pete Cranston and Carl Jackson, with Denise Senmartin
Guest Editors, Knowledge Management and Climate Change

About the Guest Editors

Pete Cranston first engaged with models of learning and knowledge while working in Adult and Community Education in the UK, mainly with migrant and refugee families and youth. Pete is constantly surprised how much overlap there is with his new world of ICT/Digital/KM4Dev/NfP consulting and grows more and more scared of our inability to engage effectively with climate change. E-mail: pete.euforic@gmail.com

Carl Jackson has been a member of KM4Dev for longer than he can remember and the community was instrumental in him becoming an independent knowledge management consultant working with intergovernmental agencies, bilateral donors, non-governmental organisations (NGOs), foundations and research organisations. His work focuses on diagnosis and design of knowledge management strategies and programmes; learning process facilitation; operational research; training and mentoring in KM skills; and review and evaluation of knowledge and communication services. E-mail: carlwkg@gmail.com

Denise Senmartin is a Senior Editor of the *Knowledge Management for Development Journal* and has worked with Pete and Carl to produce this issue. E-mail: dsenmartin@gmail.com

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[1] http://infoilri.wordpress.com/2013/08/12/km4d-journal/ (Accessed 14 August 2013)