

Disaster and Development Network (DDN) Northumbria University

Ellison Building B201, Newcastle-upon-Tyne,
United Kingdom NE1 8ST



www.northumbria.ac.uk/ddn

Outline

The Disaster and Development Network (DDN) was established following the Northumbria University launch in 2000 of the world's first Postgraduate Programme in Disaster Management and Sustainable Development. The DDN applies integrated research and learning to address hazards, disasters and complex emergencies from a developmental perspective. The Network research responds to themes of disaster reduction, sustainable development and resilience building oriented to addressing human security and wellbeing of individuals, groups and institutions in crisis. The launch of the postgraduate studies, for which there are active alumnus of 20+ completed PhDs and 250 Masters, was accompanied first by expansion of research and external engagement activities of the Disaster and Development Centre (DDC) launched 2004, renamed the DDN in 2013. Much of this community are leaders in professional programmes of practice, research and policy making around the world from international, local and academic organisations including other UK universities as it expanded. The Northumbria group is also host to the world renowned Gender and Disaster Network (GDN) and has a history of spin off enterprises focused on disaster and development related initiatives.

The current DDN ongoing exploration of this interdisciplinary field helps to identify disaster and development solutions grounded in everyday life concerns or extreme conditions. Much of this is associated with new understanding of the complex relationship between the underlying and more immediate influences on instability, impoverishment and risk. The early focus remains pervasive, with expanded awareness cross-sectorally. This is driven by questions as to whether sufficiently smart solutions are meeting the demands of human survivability. To this end the DDN aims to respond to disaster and development demands through innovative approaches. This is necessary since increased knowledge about the nature and context of global and local threats exposes persistent gaps between opportunities and consequent actions of science and technology, political will and behaviour change for disaster risk reduction. A representation of the research, learning and cognition flow underpinning much of this work is represented in Figure 1. The image to the right is well-known from earlier years of disaster and development studies at Northumbria.

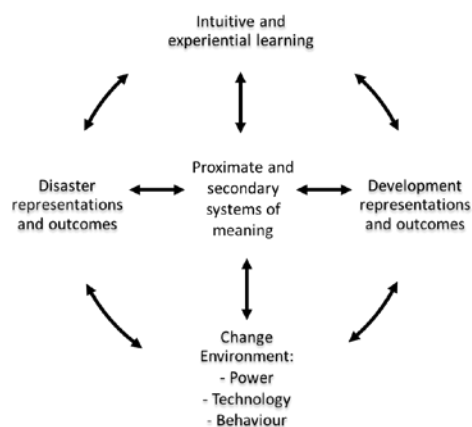


Figure 1: Challenge of learning and action in a disaster and development nexus

The DDN is located within a rapidly strengthening institutional environment. The University of Northumbria at Newcastle is the largest research and teaching university in the North East of England, with over 38,000 students enrolled at undergraduate and post-graduate level including over 500 PhD students. The University has been recognised by *Times Higher Education* as having the biggest rise in research power of any university in a national assessment of research quality in UK universities. The results of the 2014 Research Excellence Framework (REF) demonstrate that Northumbria University has made a major step forward in research, reporting the largest rise in research rated as world-leading and internationally excellent by the REF. The University has nearly tripled its share of research rated in these categories, representing an addition to its previously achieved target of best New University, which it achieved four times in all and three times in consecutive years. Its recent research achievements are thought to mark a major step-change for Northumbria, positioning the University decisively as one of the fastest rising institutions in the UK higher education sector, whilst creating a broad and robust platform for the next phase of its research programmes.

Disaster, risk and development related research is predominantly coordinated from within the Faculty of Engineering and Environment from the Department of Geography being also well networked across the wider institution including planning, design, social sciences and health. The DDN is made up of staff at Northumbria University together with affiliated staff from institutions internationally. The immediate Faculty has over 250 academics, 8,000 students and over 200 PhDs. It has research and innovation experience across a number of research groups in many aspects of engineering, materials science, physics, maths, computing and physical and human geography, including the Disaster and Development Network (DDN) led by Professor Collins. Northumbria University has significant experience of managing and participating in larger projects such as for example those of the EU, having been successful and/or involved in 11 FP6 projects, from a total of 31 bids submitted; a 35% success rate. Northumbria is also involved as partner or coordinator in 15 FP7 projects from 2009-2013.

Research Achievements and Challenges

The DDN has carried out research and development activity in 25 countries. It is also an accredited organisation for the process of the United Nations International Strategy on Disaster Risk Reduction and related Global Platforms leading to launch in 2005 and ongoing post 2015. There is wide ranging staff achievement in relation to research and contract research grants. An example is the case of Professor Collins who has secured high profile grants related to the disaster risk reduction and development area; that includes 'The Meaning of Health Security for Disaster Resilience in Bangladesh', funded by the UK Research Council's ESRC (£238,000); the Department For International Development (DFID) funded Infectious Disease Risk Management (IDRM) project (£360,000) and 'Zambezi Valley Advocacy Project' (£460,000), six British Council/DFID projects related to people centric disaster reduction (£475,000) amongst others. Under the Leadership of Professor Collins, the Disaster and Development Network (DDN) has also lead a seminar series on Disaster Education funded by the ESRC involving collaboration with the emergency services and academia of Scotland, Northern Ireland, Wales and England. It has carried out ministerial level policy debates on risk and resilience building in South Asia, East Asia, Southern Africa and Europe based on its research and public engagement. Since 2006 it has organised the annual Dealing with Disasters conference series attended by high levels of disaster risk reduction representations globally such as United Nations Special Representatives to the Secretary General.

DDN research interests include:

- **Disaster Resilience and Human Security** - including; Community Based Disaster Reduction, Disaster Education and Communication, Sustainable Livelihoods, Natural Resources Management, Rights Based and Conflict Resolution Approaches.

- **Health Centred Disaster Risk Reduction** - including; Health Security, Infectious Disease Risk Management, and Integrated Food and Livelihood Security.
- **Wellbeing in Disaster and Development** - including; Community Mental Health and Wellbeing, Social Care in Disaster and Development, Gender and Disaster, Migration and Displacement.
- **Disaster Response and Adaptation** - including; Integrated Emergency Management, Energy Security, Relief and Restoration and Climate Change Adaptation.

These themes engage cross cutting issues such as environmental sustainability, uneven development, poverty reduction, rights based approaches, civil society, living with uncertainty, adaption to global change, emergency and humanitarian response. The DDN has conducted over thirty surveys relating to critical survivability and wellbeing using people centred approaches.

DDN carries out contract research in international development or disaster reduction for International Organisations (IOs), Governments (GOs), and Non-Governmental Organisations (NGOs) including DFID, UK Government Office for Science, Trocaire, World Bank, USAID, FAO, IFAD, UNICEF, UNDP, UNHCR, Governments of Mozambique, East Timor, Ghana and Angola, Stockholm Environment Institute, Care, World Vision, Save the Children, Agema, Agha Khan, Water Aid, GTZ, Mediae Trust, IFRC, Practical Action, Wageningen International, Family Health International, ChildFund International, ELRHA, HIF, Norwegian Research Council, AXA, EuropeAid and various EU funding bodies.

The DDN also provides the elected Chair for the Enhanced Learning and Research for Humanitarian Assistance (ELRHA) supported by UK Government, Wellcome Trust and multiple humanitarian agencies and Board Member for Integrated Disaster Risk Management Society (IDRiM) hosted by Kyoto University.

Amongst various editorships in this field, DDN currently provides an Editor in Chief to *Journal of Geography and Natural Disasters* (OMICS) and Editorial Board roles for *Disasters* (Blackwell), *International Journal of Disaster Risk Reduction* (Elsevier), the *Journal of the Society for Integrated Disaster Risk Management* and the *Journal of Health Population and Nutrition*.

Examples of research achievements that inform the wider sector and contribute to achieving Disaster Risk Reduction goals either individually or in a cross-cutting way include the following:

- DDN research has focussed on how people in marginalised locations can control ecological and socio-economic risks. The risks frequently thought to be a result of climate change, resurgent pathogens or physical instability has also been found to be exacerbated by intersecting socio-economic vulnerability and local systems of governance. DDN research funded by DFID, ESRC, and NERC elaborated, in practical terms, the paradigm of disaster risk reduction through enhanced community resilience. This is however now being driven by the need to find solutions that can move well beyond the current impasse surrounding the concept of resilience, itself inadequate to meet the demands of future generations.
- Examples also show how community self-organisation, sense of security and health attributes can define resilience to disaster. Research supported by DFID, WHO, UNICEF and other partners showed how risks to health can be reduced by improving local management, allowing communities to play a major role in identifying and managing risk. Whilst risk perception is usually guided by visible assessments, individual cognition and local context, community involvement in local governance has proven to facilitate collective control and responsibility. When successful this contributes a step change to the way in which disaster can be reduced though engaging people in development. However, no panacea can be derived from this finding. Instead the demand is often for even more grounded approaches including development of corporate and social responsibilities.

- Further projects, including those supported by DFID and the British Council, have shown that whilst it is difficult to overcome natural environmental influences it is possible to reduce the 'anthropogenic landscape' effect of human activities that contribute to environmental disasters and other risks. DDN research demonstrates the viability of community based risk reduction approaches and roles of varied institutions in disaster prevention. Projects have focussed on primary resources such as water supply, the importance of children in disaster risk reduction and rights based approaches using participatory action research, such as for example in Southern Africa where increasing numbers of children are orphaned by HIV and AIDS. Other activities have involved more quantitative methods. Whilst this strand of development from empirically based research significantly contributed, more in depth analyses is recognising the need to rebalance with input from biological and physical sciences. For example, one new project is looking at 'infectious disease risk in UK trains' requiring microbiological input alongside socio-behavioural research. There are also aspects of hazards research carried out nearby through a group of leading physical geographers.

Other DDN activities include links with emergency services and association with national and international bodies, or in hosting bi-lateral links such as for example the Japan-UK Disaster Risk Reduction Study Programme, links with Southern African and South Asian academic institutions amongst others.

Suggestions for the Disaster Research Roadmap

The themes outlined in the previous section will persist for the long-term and require further concerted research to be able to build further on some of these initial successes. They are therefore indicative of some key components of a disaster research roadmap. Further, global and local progress to goals that broadly align with disaster risk reduction aspirations have as yet produces insufficient impacts globally. Whilst challenges are wider than brief comments would convey here this amounts to a disaster research roadmap based on trying to find the means to human survival through research into:

- Opportunity creation for civil society, particularly youth to be employed in shaping a future for physical, economic and social environmental quality and safety, including energy futures and social resilience.
- Hunger and easily preventable disease eradication through action research and engagement in the implementation, perfecting and dissemination of already known solutions for food production, water supply and health infrastructure.
- Disaster risk assessment and implementation of risk reduction actions at all levels, including climate change adaption.
- Effective capacity building for rapid emergence of motivated leaders in sustainable development and disaster reduction particularly within commerce and industry.
- The educational imperative of innovative research environments for combined sustainable development and disaster reduction activities.
- Accessible and people motivating information creation and communication channels.
- Integrated, action oriented science that is based on experiences of successful disaster management and sustainable development learning processes to steer toward wellbeing.
- The means to collaborative mechanisms inter-sectorally and cross-sectorally that may replace cultures of competition with those of cooperation, to advance agreed actions that can drive sustainable changes in ways of life to achieve sustainability and risk reduction.

References:

Some indicative references for this document (indicative of one segment of DDN activity)

- Collins, A.E. (2015) 'Beyond experiential learning in disaster and development communication' in: Egner, H., Schorch, M. and Voss, M. (Eds.) *Learning and Calamities: Practices, Interpretations, Patterns*, London: Routledge, pp.56-76.
- Collins, A.E., Jones, S., Manyena, B. and Jayawickrama, J. (eds.)(2014) *Hazards, Risks and Disasters in Society*, New York: Elsevier. (23 chapters).
- Collins, A.E. (2013) 'Applications of disaster risk reduction to migration influenced by environmental change', *Journal of Environmental Science and Policy*, 27:S1, pp. S112-S125.
- Mavhura, E., Manyena, B., Collins, A.E. and Manatsa, D. (2013) 'Indigenous knowledge, coping strategies and resilience to floods in Muzarabani, Zimbabwe', *International Journal of Disaster Risk Reduction*, 5, pp.38-48.
- Jones, S., Aryal, K. and Collins, A.E. (2013) 'Local-level Governance of Risk and Resilience in Nepal', *Disasters*, 37:3, pp.442-67.
- Collins, A.E. (2011) 'Representations of disaster and development in the Sendai emergency' in the earthquake, the tsunami and the nuclear meltdown in Japan: responses from the communicating disaster research group, *ZIF-Mitteilungen* 2, pp.12-14.
- Alam, E. and Collins, A.E. (2010) 'Cyclone disaster vulnerability and response experiences in coastal Bangladesh', *Disasters*, 34:4, pp.931-53.
- Williams, L., Collins, A.E., Bauaze, A. and Edgeworth, R. (2010) 'The role of risk perception in reducing cholera vulnerability', *Risk Management: an International Journal*, 12, pp.163-84.
- Ray-Bennett, N., Collins, A.E., Bhuiya, A., Edgeworth, R., Nahar, P and Alamgir, F. (2010) 'Exploring the meaning of health security for disaster resilience through people's perspectives in Bangladesh', *Health and Place*, 16: pp.581-9.
- Collins, A.E. (2009) 'The people centred approach to early warning systems and the 'Last Mile', in International Federation of the Red Cross and Red Crescent Societies (IFRC), Focus on Early Warning, Early Action, World Disaster Report, Chapter 2, pp. 39-68.
- Collins, A.E. (2009) *Disaster and Development*, Routledge Perspectives in Development Series, London

Further information can be obtained from:

Professor Andrew Collins
Disaster and Development Network (DDN) / Department of Geography
Faculty of Engineering and Environment
201b Ellison Building
Northumbria University
Newcastle-upon-Tyne
United Kingdom
NE18ST

andrew.collins@northumbria.ac.uk