

Institution: Lancaster University
Unit of Assessment: UoA7- Earth Systems and Environmental Sciences
Title of case study: Increased resilience and recovery after natural disasters
<p>1. Summary of the impact (indicative maximum 100 words)</p> <p>Contingency planning to prepare for, respond to, and recover from emergencies, including natural disasters such as flooding, is a priority for all governments. However, such planning has traditionally focussed on risk assessment and emergency response, with recovery conceived of solely in terms of repairs to infrastructure and short-term health protection. Consequently, residents' needs for support during the longer-term recovery process hardly featured at all in policy prior to our research, which has provided new insights into the nature of disaster recovery. Starting from a focussed case study of the 2007 floods in Hull, we have delivered leading research that has advanced understanding of the social, economic and practical challenges faced by people impacted by disasters. Our research has transformed the ways in which policy makers understand and manage the human impacts of the recovery from natural disasters. It has had a key role in shaping guidance, strategy and practice not only in UK responses, but globally, for example informing Australian authorities to improve their responses to both floods and bush-fires. Our impact was recognized by the ESRC in 2013, winning second place for Outstanding Impact in Public Policy, in their first ever 'Celebrating Impact' awards.</p>
<p>2. Underpinning research (indicative maximum 500 words)</p> <p>Our research into recovery and resilience after disasters, emerged from the combined research expertise and track record of Dr Will Medd on resilience and governance¹ and Prof Gordon Walker on the social dimensions of risk². Their collaboration initially took forward three projects funded by the Environment Agency on flood warnings, risk communication and flood resilience during 2006-8, as well as an FP7 project on social capacity building and natural hazards (CAPHAZ-Net). The insights, and the close relationships with stakeholders built through these projects, enabled a rapid response to the severe summer floods in the UK in 2007, with two projects on the recovery process in Hull.</p> <p>Responding to the 2007 floods, the first project, the Hull Floods study, funded by the ESRC, EPSRC, and the Environment Agency (ESRC/EPSRC RES 177-25-0004, 2007-9), was led by Medd and brought together an extended research team including Walker, Dr Nigel Watson, Dr Maggie Mort (Department of Sociology, Lancaster), and Dr Rebecca Whittle (lead researcher). It focused specifically on the process of flood recovery and the impact that the recovery process can have on building future resilience. This represented a major shift from previous research focused on prevention and responses to flood events. We used an innovative longitudinal, qualitative, diary-based research design aiming to document and understand the everyday experience of flood recovery. The project involved intensive stakeholder engagement from the start, with local, regional and national representatives informing the research as it unfolded, and engaging directly with research participants. This was the first time that the flood recovery process had been captured with this level of detail and the project was subsequently assessed as 'Outstanding' by the ESRC. The key insights to emerge from this research^{3,4} were that, far from showing a steady process of improvement, flood recovery is punctuated by a distinct series of 'highs' and 'lows', which are closely tied with other events that are taking place in a person's life, as well as with people's experience of the different agencies and private sector companies involved in the flood recovery process (for example, builders, insurance companies, etc.). It also allowed us to demonstrate the crucial finding that people had to cope with the double trauma that occurs when the first destructive event (the flood) is compounded by secondary challenges that arise from poor treatment from the companies and agencies that are supposed to be helping with the recovery. The research identified a flood recovery gap, i.e. a gap between the legally-defined contingency arrangements, provided for the affected community by its public authorities and agencies, and the less well-defined services provided by the private sector (e.g. insurance, building industry).</p> <p>Early within the project it emerged that there were specific issues facing children and flood recovery, and therefore a second project (funded by the ESRC RES 177-25-2009 and Environment Agency, 2009- 10), focused on the specific experience of children in flood recovery in Hull. The project was again led by the LEC team (Medd and Whittle plus Marion Walker: February 2009 - April 2011), and included collaborations with the Universities of Middlesex and Surrey. The research involved a participatory methodology using "story-boards", short one-to-one interviews</p>

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and focus groups with young participants as well as adults. The core findings focused on the specific vulnerabilities experienced by children and young people during the extended process of disaster recovery and the need to accommodate children and young people's voices into building resilience for the future^{5,6}. Like the adults' project, the Hull Children's Flood Project involved a high level of engagement with stakeholders and the children and young people themselves. For example, led by Marion Walker, the project team received additional funding from the ESRC Festival of Social Science to develop an interactive workshop on flooding and disaster recovery for children and young people⁶. This included a 'Flood Suitcase', specially-designed by a community artist, which contained workshop materials and an adapted version of 'Flood Snakes and Ladders' – a flood recovery simulation exercise developed from the adults' project as a means of enabling stakeholders to experience the 'ups' and 'downs' of flood recovery.

3. References to the research (indicative maximum of six references)

The three references most influential in the impact are shown with an *

1. *Medd, W. and Marvin, S. (2005) 'From the Politics of Urgency to the Governance of Preparedness: A Research Agenda on Urban Vulnerability' *Journal of Contingencies and Crisis Management*, 13, 44-49.
2. *Walker G P and Bulkeley H (2006) Geographies of Environmental Justice, *Geoforum*, 37, 655-669.
3. Sims R (now Whittle), Medd W, Mort M, Twigger-Ross C, 2009, "When a "Home" Becomes a "House": Care and Caring in the Flood Recovery Process" *Space and Culture* 12(3) 303-316
4. Walker, G., Whittle, R., Medd, W., Walker, M. (2011) "Assembling the flood: producing spaces of bad water in the city of Hull" *Environment and Planning A*, 43: 2304-2320
5. Walker, M., Whittle, R., Medd, W., Burningham, K., Moran-Ellis, J. & Tapsell, S. (2012) 'It came up to here': learning from children's flood narratives *Children's Geographies*. 10: 135-150
6. *Whittle, R., Walker, M. & Medd, W. (2011) Suitcases, storyboards and Newsround: exploring impact and dissemination in Hull. *Area* 43 (4) : 477-487

4. Details of the impact (indicative maximum 750 words)

In the UK, national contingency planning is the responsibility of the Civil Contingencies Secretariat (CCS) within the Cabinet Office. Their website states "*....we need to be ready and able to deal with potential emergencies and disruptive events; these can range from natural disasters like flooding or heavy snow to deliberate acts or attacks....*"^A As described in detail below, our input into the CCS has provided "*..... a useful resource for the CCS in identifying key issues and gaps which exist within the NRG [National Recovery Guidance] and also suggests how the CCS might go about filling these gaps.*"^B This documented change in policy implementation by government in the UK (the NRG) has been followed by similar uptake of our insights in Australia.^C

Our research, (described in Section 2) provided high quality evidence on recovery and resilience, building on the specific case study of the Hull floods of 2007. Our research emphasised (i) that many people experienced the flood recovery process as more traumatic than the flood event itself and (ii) that the impact of flood recovery on children and young people was unrecognised in policy. After our research in Hull, Dr Hugh Deeming plus Medd and Whittle, undertook specific follow-on work to build on the impact of these projects, funded by an EPSRC Pathways Impact Award (December 2010 – March 2011) and the Cabinet Office (December 2010 – March 2011). This involved:

- 1) Developing an online version of our "Flood Snakes and Ladders" flood recovery training tool. This was devised because research users said they needed ways to demonstrate the complexities of the recovery process, highlight the 'recovery gap' and identify opportunities for intervention.
- 2) Undertaking a comprehensive review of the National Recovery Guidance (NRG) for the Cabinet Office, identifying the key learning, gaps and recommendations from the two Hull Flood Studies^D. NRG's website still includes a direct link to our project reports as part of its guidance "*... aimed at local responders and developed in line with the Civil Contingencies Act (CCA) on recovering from an emergency in the UK.*"

We have continued to follow-through these research findings to deliver significant impacts through (i) continued engagement with policy makers and practitioners, (ii) the production of innovative training materials which can be used by policy makers and practitioners to improve understanding of the impacts of flood recovery and (iii) extensive media engagement in the UK and internationally. The resulting impacts are detailed below.

1) Bringing recovery issues to the forefront of policy attention. Prior to 2007, recovery issues were hardly considered in policy documents and related support, which concentrated solely on the disaster itself and the immediate emergency response phase which followed. Our research thus provided policy makers with the evidence that transformed their understanding of recovery. In particular, our work influenced the Pitt Review (the government's national inquiry into the 2007 floods), where it was used as a case study to demonstrate the impacts of flood recovery.^E This was particularly significant as, in the interim Pitt Review, health and well-being were subsumed as one page within the "Recovery" chapter^F. In response to that interim review, we contributed specific evidence on our insights, and the final Pitt Review incorporated a full chapter on this topic, that highlights our work as a specific case study^E. We also influenced post-Pitt policy development through responses to a series of Defra consultations. Most explicitly, in relation to consultation on property-level flood resilience measures, we recommended the introduction of free surveys and a locally-flexible scheme to subsidise the implementation of these measures, and that there should be close liaison with local communities.^G All these suggestions were incorporated by Defra as part of a new £5.6 million flood protection grant scheme^H.

2) Transforming national Guidelines on Community Resilience and Recovery. The Cabinet Office is a major user of our research. They requested our specific involvement in advising policy on community resilience. We were invited to sit on the Community Resilience Programme Steering Group which culminated in our research being quoted as a major influence on policy:

"The Civil Contingencies Secretariat has participated in the steering group for the project, attended workshops and met the diarists to understand the experiences of those affected by major flooding. Access to the diarists, and hearing their experiences influenced the consultation process and provided a constant reminder of the need to ensure that community resilience is accessible and useful to all community members. It also reiterated the need to facilitate increased risk awareness within the population to better inform their decision to get involved in preparing for emergencies."^G

The Civil Contingencies Secretariat also incorporated our learning in their work through 'Flood Snakes and Ladders', an interactive flood recovery simulation tool that we developed, and which was used by the Civil Contingencies Secretariat on their staff training. The civil servant who organised this said: *"I think the quotes really demonstrated to them [fellow staff] the real impact on the ground and got many of them to be quite reflective as a result... [The game was] a brilliant way to demonstrate how exceptionally frustrating it would be if it happened in real life."*

Directly following this, we were commissioned by the Cabinet Office to undertake a comprehensive review of the National Recovery Guidance (NRG) to ensure that it included learning from our research. The Cabinet Office's recovery policy manager has stated that our review of the NRG *"... was a useful resource for the Civil Contingencies Secretariat in identifying key issues and gaps which exist within the NRG and also suggests how the Civil Contingencies Secretariat might go about filling these gaps. The work that the [Lancaster Environment] Centre has carried out for the Civil Contingencies Secretariat has been very useful and the products produced... well thought through and stimulating."*^B

3) Environment Agency strategy and practice. The EA drew directly on our work in developing a new internal strategy document on recovery. They wrote to us saying *"the Hull work will help our communications staff understand how people feel after a flood and ensure that any communications from the EA (e.g. about signing up to Floodline Warnings Direct) is sensitive to the problems people face and hopefully more joined up with other organisations responsible for recovery, like LAs. This also applies very specifically to post-flood drop-ins where we often held these separately to other organisations. This shouldn't happen in the future."*^J

4) Defra review of climate change preparedness and the National Adaptation Programme. In 2011, DEFRA commissioned Frontier Economics Limited to review climate change adaptation, specifically in the context of health and well-being. The company drew extensively on our research, citing us 26 times and stating that *"[our] interview with you directly inform[ed] the 'Health and well-being theme' of the report"*^{K,L}. This report has been highly influential, being cited by many organisations in describing their plans for climate adaptation and being used by Defra to inform the National Adaptation Programme.

5) Improving support for recovery in contingency planning world-wide. While the Hull case study focussed on flooding, our insights are no less pertinent to resilience to other disasters,

natural or otherwise. Our research is now delivering impacts beyond the UK, not least where climatic extremes are bringing increased need for effective contingency planning for natural disasters. We were invited to give two seminars at the National Climate Change Adaptation Research Facility (NCCARF) in Australia in April 2011 and these seminars have had an impact on the work of local disaster recovery agencies in Australia by providing them with further evidence of the importance of tackling longer-term recovery issues. For example the Principal Recovery Adviser to the Government of Victoria commented “...*there has been a dearth of research that looks at the 'lived experience' of the recovery process. Even with major recent events in Victoria such as the 2009 bushfire with 179 deaths and over 2,000 houses destroyed, the 2010-11 floods with around 2,000 homes significantly flooded and many more impacted.... I just wanted to let you know how useful your work has been for post-disaster recovery work that I undertake*”.^C More recently, our research is also being used by Save the Children Fund to help them improve their response to emergencies. We have worked with Save the Children UK Emergencies team to develop the Journey of Hope (JOH) UK; a post-disaster psychosocial recovery programme for children, young people and their carers. As part of this on-going work we will present progress on JOH to the Cabinet Office Emergency Planning College Conference “Neither Seen Nor Heard”.

The reach and significance of the impacts that have already been delivered from our research has been recognised by ESRC, who in 2013 awarded us 2nd prize for Outstanding Impact in Public Policy^D. In their commendation^D ESRC state “*The Hull Floods Project team at Lancaster University has transformed policymakers' understanding and management of the human impacts of the flood recovery process. The team had continued engagement with policymakers and practitioners, and produced innovative training materials.*”^D

5. Sources to corroborate the impact (indicative maximum of 10 references)

- A. Cabinet Office 2013 Improving the UK's Ability to Absorb, Respond to and Recover from Emergencies <https://www.gov.uk/government/policies/improving-the-uks-ability-to-absorb-respond-to-and-recover-from-emergencies>
- B. E-mail from Recovery Policy Manager, Cabinet Office Civil Contingencies Secretariat 12/8/2011
- C. E-mail from Health and Human Services Emergency Management Branch, Government of Victoria), 2/8/2012.
- D. See “‘After the Rain’ - Hull flood study” under “National Recovery guidance: case studies” at <https://www.gov.uk/national-recovery-guidance#national-recovery-guidance-case-studies>
- E. The Pitt Review The Cabinet Office 2008, p.359- 360 (Section 25:11) (http://webarchive.nationalarchives.gov.uk/20100807034701/http://archive.cabinetoffice.gov.uk/pittreview/thepittreview/final_report.html).
- F. The Pitt Review: Interim Report The Cabinet Office 2008. http://webarchive.nationalarchives.gov.uk/20100807034701/http://archive.cabinetoffice.gov.uk/pittreview/thepittreview/interim_report.html)
- G. Lancaster University submission for Defra consultation on flood management. http://eprints.lancs.ac.uk/31801/1/Lancaster_University_submission_for_Defra_consultation_on_flood_protection_and_resilience.pdf
- H. <http://archive.defra.gov.uk/environment/flooding/manage/propertylevel/grant-scheme.htm>
- I. HM Government Strategic National Framework on Community Resilience March 2011p.23/24. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/60922/Strategic-National-Framework-on-Community-Resilience_0.pdf
- J. E-mail from Recovery Policy Manager, Cabinet Office Civil Contingencies Secretariat to Rebecca Whittle, 18/02/2010.
- K. E-mail from Environment Agency to Will Medd, 12/01/2010.
- L. E-mail Frontier Economics Limited, London WC1V 6DA (www.frontier-economics.com)
- M. Frontier Economics (2013) Economics of Climate Resilience: Health and Well-Being Theme Report (<http://randd.defra.gov.uk/Default.aspx?Module=More&Location=None&ProjectID=18016>)
- N. <http://www.esrc.ac.uk/news-and-events/events/celebrating-impact-prize/prize-winners-2013.aspx>