

## Impact case study (REF3)

<b>Institution:</b> University of Hull		
<b>Unit of Assessment:</b> 28 - History		
<b>Title of case study:</b> Using History to Build Resilience in Communities at Risk from Natural Hazards		
<b>Period when the underpinning research was undertaken:</b> 2014-2020		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b> Greg Bankoff	<b>Role(s) (e.g. job title):</b> Professor in Environmental History	<b>Period(s) employed by submitting HEI:</b> 2007 -
<b>Period when the claimed impact occurred:</b> 2014 - 2020		
<b>Is this case study continued from a case study submitted in 2014?</b> N		
<b>1. Summary of the impact</b>		
<p>Research into the history of responses to natural disasters has shaped new and globally significant approaches to building community resilience in the face of natural disasters. Bankoff's international projects served to: reorient the Red Crescent Society's response to the effects of earthquakes in rural communities by providing training in best practice methodologies to its staff (Kazakhstan); highlight the significance of community level associations and improved the quality of NGO interventions in hazard mitigation (Philippines); and informed the policy and guidance documents of the Association of Drainage Authorities (UK) by offering insights into improving the governance of drainage systems.</p>		
<b>2. Underpinning Research</b>		
<p>Responses to historical natural disasters (earthquake, volcanos, flooding) in three international locales has shaped a seminal contribution to <b>Disaster Risk Reduction (DRR)</b>, led by Bankoff and a project team supported by a total of £3.5m in competitive funding. <b>The impact of this research is extended through the work of NGOs, research institutes, HEIs, and local agencies and communities in locales with enhanced risk of natural disasters.</b> Appointed as Professor of Environmental History in 2007, Bankoff has established an international profile at the forefront of investigating the past and present importance of local and cultural responses to <b>reduce risk, build community resilience, facilitate adaptation</b>, and so make societies <b>less vulnerable to natural hazards</b>, in rural, urban, coastal and estuarine settings. These are often <b>the forgotten places of global climate change</b>: Indigenous, post-colonial and post-Soviet spaces in which a large proportion of the most disadvantaged of the global community bear a disproportionate effect and cost of climate change and natural disasters. Bankoff's approach to the broader field of DRR is defined by attention to the epistemologies of cultural difference, by placing local knowledge at the centre of responses to natural disasters. The <i>World Disaster Report</i> (3.1), which Bankoff co-edited and contributed seven chapters, foregrounds his <b>key research insight, that culture must form an integral aspect of DRR in the future.</b> The Report focusses on the <b>need for policymakers and practitioners to take account of variations in cultures, beliefs, and attitudes and how their different interpretations of risk</b> must be integrated into the organizational framework and funding models of international aid organisations as set out in the 2005 Hyogo Framework for Action ('Building the Resilience of Nations and Communities to Disasters') and underpins the UN's <i>2030 Agenda for Sustainable Development</i>. As part of this new approach, the impact of Hull's research contributes to a more historically aware and people-centred understanding of DRR: one that is not hampered by methodological silos, context-bound concepts and methodologies, or lack of dialogue between 'western' and 'second' or 'fourth' world epistemologies.</p>		
<b>2.1 Living with earthquakes in post-Soviet Kazakhstan</b>		
<p>As part of <b>Earthquakes Without Frontiers</b>, a large multi-disciplinary NERC/ESRC project (£3 million), Bankoff led a seven-year interdisciplinary humanities and social science research programme that <b>revealed the low level of earthquake risk perception and preparedness in rural areas of south-eastern Kazakhstan.</b> This work was carried out in collaboration with regional and national branches of the <b>Red Crescent of Kazakhstan</b>, which subsequently carried out DRR training that was directly informed by Bankoff's research in affected villages in Turkistan,</p>		

Jambyl and Almaty. The co-produced documentary short *Scattered Pieces*, directed by an award-winning photojournalist, featured a contemporary Kazakh visual artist's project of using murals and mixed media to communicate risk to residents in earthquake-prone regions; the film is now part of the Red Crescent's public communication and education strategy. In collaboration with the **Kazakh Research Institute of Earthquake Engineering and Architecture**, the project also completed a large-scale survey and assessment of residential buildings in the provincial city of Taraz to highlight issues of compliance with national building regulations, and to identify reasons that determine non-compliance, and therefore elevate risk. A community-focussed study analysed residents' lack of prioritisation of earthquake risk in comparison to floods and mudslides in Talgar, a dormitory town for the city of Almaty. **The results of this research generated multiple pathways to inform agency response, and to increase community resilience via focussed communications of risk to affected and at risk populations**, (3.2-3).

## 2.2 'Co-volcanic' societies in the Philippines

Bankoff's research **has driven a methodological step change in the study of environmental history in the Philippines**, a country where 80% of the population live in close proximity to an active volcano. The vulnerability of local communities was revealed in a project (2015-2019) funded by the **Australian Research Council**, which focussed on Mount Mayon, which has erupted over 50 times since 1616. This research revealed the centrality of historical considerations to understand how risk is 'constructed' by a range of often inadvertent interactions between humans and their physical environment. **Communities and their volcanos have co-evolved, with social systems influencing the behaviour of volcanic systems**. It was found, for instance, that road and rail links historically acted to channel lava and lahars towards communities. This project directly challenges the utility of existing terminological classifications by illustrating that the frequency with which a volcano erupts has much more bearing on DRR than any volcanological classification. Deploying the indigenous concept of *bayanihan* the research highlighted how community **vulnerability is the product of culture**, in particular, the way people perceive the world around them and act according to traditional patterns of behaviour over expanses of time, themselves attuned to the *longue durée* of seismic time (3.4-5)

## 2.3 Local flood mitigation in England

The integration of the nuances of history and culture into DRR was also implemented in an **AHRC-funded** research project (2017-) led by Bankoff and involving a team including Dr John Morgan (Manchester), Dr Leona Skelton (Northumbria) and Dr Jane Rowling (PDRA, Hull) that analysed archival materials and conducted interviews with flood risk management practitioners and stakeholders in England. This research has been taken up by the UK **Association of Drainage Authorities** as a tool to assess the resilience of a complex network of drainage systems to a measurable increase in annual rainfall each year since 2011. **It develops an approach that views flood as a social construction as much as a physical hazard, and that places people and environment at the centre of a more historically oriented understanding of flooding in England**. Ordinary watercourses constitute the foundation of the UK drainage network and yet their role has been virtually ignored. Widening the focus from the perspective of short-term risk to longer term understandings of place and landscape revealed how the **incremental development of drainage infrastructure over the centuries** has made optimising the system or radically restructuring it unfeasible. Case studies were conducted in the four flood-prone counties of Cumbria, East Riding, Lincolnshire and Somerset. **The research highlights the importance of understanding the nature of past developments to the formulation of current and future policy and planning** (3.6).

## 3. References to the Research

### General:

1. *World Disaster Report 2014: Focus on Culture and Risk*, ed. T. Cannon, L. Schipper, G. Bankoff & F. Krueger (Geneva: International Federation of the Red Cross and Red Crescent Societies, 2014). 266 pp.

### Kazakhstan:

2. G. Bankoff & K. Oven, 'What Happened to the Second World? Earthquakes and Postsocialism in Kazakhstan', *Disasters* 44 n. 1 (2020): 3-24.

3. K. Oven & G. Bankoff, 'The Neglected Country(side): Earthquake Risk Perceptions and Disaster Risk Reduction in Post-Soviet Rural Kazakhstan', *Journal of Rural Studies* 80 (2020): 171-184.

#### **Philippines:**

4. G. Bankoff, *Cultures of Disaster: Society and Natural Hazard in the Philippines* (London & New York: Routledge, 2003). 232 pp.

5. G. Bankoff, 'Under the Volcano: Mount Mayon and Co-volcanic Societies in the Philippines', *Environment and History* 26 n. 1 (2020): 7-29.

#### **England:**

6. G. Houghton, G. Bankoff & T. Coulthard 'In Search of "Lost" Knowledge and Outsourced Expertise in Flood Risk Management'. *Transactions of the Institute of British Geographers* 40 n. 3 (2015): 375–386.

#### **Research Grants:**

**[G1]** Principal Investigator, Arts and Humanities Research Council Grant AH/P013627/1. '**Local Governance and Community Resilience: How Internal Drainage Boards and Communities Managed Flooding in England**'. Nov 2017-Oct 2021, £370,359.

**[G2]** Partner Investigator, Australian Research Council Linkage Grant LP150100649. '**Hazards, Tipping Points, Adaptation and Collapse in the Indo-Pacific World**'. Nov 2016-Dec 2019, AUD \$345,044.

**[G3]** Co-Principal Investigator, Natural Environment Research Council/Economic and Social Research Council Grant NE/J01995X/1. '**Earthquakes without Frontiers: Resilience to Natural Hazards in Earthquake-prone and Volcanic Regions**'. July 2012 - June 2018 £3.5 million.

**[G4]** Co-Investigator, Arts and Humanities Research Council Network Grant AH/N009436/1. '**Risk, Hazards, Disasters & Cultures: An Integrated Humanities, Natural Science & Disaster Studies Approach**', September 2016 – July 2018, £34,622.

## **4. Details of the impact**

### **4.1. Informing disaster preparedness in a post-Soviet Republic**

Bankoff's contribution to Earthquakes Without Frontiers (2013-2018) led to **transformational increases in understanding of earthquake hazards** in Kazakhstan and led to policy changes by national organisation, affecting the lives of 4.5 million people. **The Kazakh Red Crescent (KRC) benefitted directly** from Bankoff's research to address the gap in public understanding in one of the globe's most seismically active regions, by leveraging the concept of *Asar* - a set of values from Kazakhstan's pre-Soviet indigenous past and part of a system of **village-based reciprocity**. According to the **General Director of the KRC**, Bankoff's research was integral to driving a wholesale shift in approach: 'Working together, we were able to expand the reach of our organisation to villages where we had not worked before in South Kazakhstan'. Where much earthquake related DRR focusses on the 'seismic future' of cities, Bankoff's work enabled the KRC to adjust its focus to 'the **countryside and smaller towns, when before most of our attention was on people in larger cities. This shift was driven by our collaboration with this project and has significant long-term benefits**'. Data and key findings were shared with a range of state agencies and local authorities, and will '**positively affect the lives of the population of Talgar and Almaty**' (5.7). Subsequent publications from this research constitute important new insights that conceptually reframe earthquake risk reduction in post-Soviet Central Asia (3.2-3, 5.8). The former **Deputy Director of the Red Crescent** states that: 'Working with Professor Bankoff for such an **extended period of time** provided an important training opportunity for myself and Red Crescent volunteers to **engage with best practice research methodologies** involved in the planning, creation and administration of surveys, sampling strategies, the organisation and facilitation of focus group discussions, and personal interviewing techniques'. The impact of this research '**materially contributed to the Kazakh Red Crescent's ability to reduce the future risk of earthquakes**'. Specifically, Bankoff's work shaped how the KRC approached the challenge of educating the rural segments of Kazakhstan's 18 million people to the nature of disaster management in a context where the United Nations Development Report concluded that preparation for and understanding of natural disasters was 'ineffective'. The Deputy Director of the

Red Crescent affirms that the collaboration with Prof Bankoff **'has had a lasting impact on myself and the other members of the Kazakh Red Crescent'**, with the effect of **'improving our skills base'**. In addition, the project generated vital data assets that **'provided the Red Crescent with a very important database on rural risk perception on which to base future educational campaigns and relief operations'** (5.6).

#### 4.2. Indigenous knowledge and the volcanic environment in the Philippines

Bankoff's research has added critical, timely and demand-led expertise in countries where state institutions are less robust and have fewer financial resources to contend with environmental disasters. In the Philippines, Bankoff's projects have built bridges between state agencies and local communities, driving multi-level collaboration that has enhanced community resilience through the adoption of **new practices**, the development of new **strategies of risk and response**, and through the creation of ecologies of knowledge-exchange. This research, as the former **Director of the Center for Disaster Preparedness**, one of the leading NGOs engaged in this field, comments **'has appreciably contributed to our understanding of such events'** by **'highlighting the importance of understanding people's pasts in what makes communities vulnerable or resilient'** today (5.2). Over the past two decades, too, Bankoff has been **'one of the leading scholars in the genre of environmental history in the Philippines and, almost single-handedly, pioneered the study and understanding of how societies in these islands have adapted to hazard'** (5.3 & 5.4). His research has directly shaped public understanding of the cultures of disaster and their place in Philippine history and civil society: **'His work on community resilience and how Filipinos have and do organise themselves, what is popularly referred to nowadays as *bayanihan*, has shown why historical work is relevant to Filipinos today and how we can learn from the practices of our forebears'** (5.3). This work forms part of a wider initiative to **democratise the communication of risk** associated with natural hazards, by decentering technical and conceptual registers of western science and making local communities active agents in the communication of risk. This is vital in the Philippines, where over **1.3 million children and adolescents do not participate in education**. The approach to *bayanihan*, which represents a recovery of indigenous knowledge at the intersection of environment and place is now the starting point for the study of local responses to climate change. This approach formed the topic of a November 2020 webinar **'Structures of Mutual Support'**, sponsored by the Metropolitan Museum of Manila and the National Commission for Culture and the Arts, in which Bankoff appeared as an expert commentator (5.5).

#### 4.3. Community level water administration in the UK

Bankoff's work on local flooding in England began with his expert contribution to the Independent Review Body created by Hull City Council in response to the extensive flooding that impacted the region in 2007. The ongoing **'Local Governance and Community Resilience to Floods'** project, which builds on and significantly scales up previous work on flooding in the Humberside region (5.9), has been designed specifically to support the **Association of Drainage Authorities (ADA)** to improve governance structures and reform the sector. These reforms directly affect 2.2 million people in four English counties with a combined Gross Value Added of c. £30b. As ADA's Chief Executive writes: **'Professor Bankoff's pioneering research is a key component for delivering this vision that will enhance community-level water administration and provide better flood risk management and water security in an era when we are fighting for resources to protect our communities from the devastating effects of flooding'** (5.10). Since 2018, the research team led by Bankoff has intensely engaged with stakeholders, interviewing local Members of Parliament, local councillors, the Environment Agency, Internal Drainage Board members, farmers and private sector interests to tap local knowledge built on historical experience so as to provide **'valuable impact in terms of how we identify weaknesses in the drainage system and how we provide guidance about flood risk management'** (5.10). In this way, ongoing research is building bridges between local communities and state agencies and informing policy with reference to the resonances of past water management experiences and the practical, community-driven solutions they reveal. This locally informed approach to flood mitigation underpins the UoH's contribution to **Ark: the National Flood Resilience Centre**, a collaboration with Humberside Fire and Rescue Service, and the **Living with Water Project**, involving the Environment Agency, the East Riding of Yorkshire Council, and Yorkshire Water. – this research

has made a vital contribution to the significant enhancement in research capacity in this area at the UoH, which is driving global collaborations at scale, including a **British Academy** funded project to examine intercultural and intergenerational knowledge exchange around flooding in Vietnam; the **£1.3m Leverhulme Doctoral Centre for Water Cultures**. Elements of Bankoff's approach served as the basis for the UoH's new **MSc in Flood Risk Management**, which includes a focus on holistic and community-driven responses to flooding events.

#### 5. Sources to corroborate the impact

1. **World Disaster Report 2014: Focus on Culture and Risk**, ed. T. Cannon, L. Schipper, G. Bankoff and F. Krueger (Geneva: International Federation of the Red Cross and Red Crescent Societies, 2014). 266 pp. Translated into French, Spanish and Arabic.
2. Testimonial: former director of the Center for Disaster Preparedness and member of the **Global Forum on Disaster Risk Reduction Results Management Council** (2010-2011) of the World Bank.
3. Testimonial: former Dean, School of Social Sciences, Ateneo de Manila University and Chair of the University Research Council.
4. Testimonial: Professor of History, University of the Philippines, and member **UNESCO Philippines Commission**.
5. Structures of Mutual Support: **A Conversation to Examine *Bayanihan* and Other Mutual Support Practices**. Philippine Arts in Venice Biennale, 26 Nov 2020  
<https://www.facebook.com/philartsvenice/videos/816103658958291/>
6. Testimonial: **Deputy Director General of the Red Crescent of Kazakhstan**.
7. Testimonial: **General Director of the Red Crescent of Kazakhstan**.
8. Documentary. *Scattered Pieces*. Directed by Alexander Parkyn Smith. London. 2020.
9. T. Coulthard, L. Frostick, H. Hardcastle, K. Jones, D. Rogers, M. Scott & G. Bankoff, *The June 2007 floods in Hull: Final Report by the Independent Review Body*, 21st November 2007.
10. Testimonial: **Chief Executive Association of Drainage Authorities**.