

## Impact case study (REF3)

<b>Institution:</b> Kingston University		
<b>Unit of Assessment:</b> 17 – Business and Management Studies		
<b>Title of case study:</b> Changing policy and practice for promoting flood resilience of homes and businesses		
<b>Period when the underpinning research was undertaken:</b> 2011 – 2019		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name:</b> Tim Harries	<b>Role:</b> Senior Research Fellow	<b>Period employed by submitting HEI:</b> Jan 2011 – Dec 2020
<b>Period when the claimed impact occurred:</b> Aug 2013 –2020		
<b>Is this case study continued from a case study submitted in 2014?</b> N		

## 1. Summary of the impact

Climate change and urbanisation are increasing flood risks for homes and businesses. Household and business owners can reduce risks by using property-level flood resilience (PFR) – but few do so. By demonstrating the reasons for low uptake of PFR among householders and businesses, Dr Harries' research has impacted public policy and industry. His research has (1) prompted Defra and the Environment Agency (EA) to abandon ineffective PFR strategies and launch a PFR collaboration with industry, as well as to help 60,000 people implement PFR. It has also (2) informed flood risk management innovation in Belgium; (3) persuaded parts of the UK insurance industry to provide free PFR instead of relying on homeowners to fund their own; and (4) improved a national PFR website.

## 2. Underpinning research

In England and Wales, floods cause £1.4 billion of damage annually. 860,000 homes and 20% of non-domestic properties have a high probability of being flooded. Retrofitted property level resilience measures (PFR – e.g. resilient kitchens, resilient airbricks and door barriers) significantly reduce the impacts of flooding.

Previous work on the take-up of PFR focussed on the perception of risk and the material costs and benefits of PFR. Harries' research was the first to reveal social and psychological explanations for the low take-up of PFR [R1]. It demonstrated that protective behaviour may be more influenced by emotional than financial considerations.

From 2008 to 2011, Harries co-designed and analysed a survey of 600 respondents living in high flood risk areas in England. Harries' research revealed that people had to perceive PFR as normal and consistent with their social identity before they would commit time and money to it.

Previously, the UK government and insurance industry had tried to encourage the take-up of PFR simply by providing information about risk and PFR options. Harries showed the need to rethink this approach. His work demonstrated that householders were afraid that PFR would be seen by neighbours as a betrayal; they feared that by adopting it they would be suggesting the local area was unsafe. Household also anticipated the potential shame of others deeming PFR a waste of money or a sign of paranoia. Finally, some feared that PFR measures would actually make them feel less safe; it would oblige them to accept the risk without using denial to manage their anxiety.

Harries and colleagues also found that it was important to normalise PFR within the in-groups of small businesses [R2]. From 2012, the team were part of the ESPRC-funded SESAME project (Organisational Operational Response and Strategic Decision Making for Long Term Flood Preparedness in Urban Areas) [R3, R4]. Harries and colleagues designed, carried out, and analysed a series of 36 semi-structured, narrative style interviews from four case study areas.

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These interviews captured the behaviour and actions of small businesses in relation to experienced or hypothetical flooding.

Using a sensemaking approach to explore the businesses' responses, they found that SMEs distrust advice that contravenes in-group norms. Instead, messages need to use the voice, framing and language of small businesses themselves or of other trusted insiders. Additionally, these messages only landed if existing businesses' identities and assumptions were unaffected or if shock made them untenable.

Their research, both in journal articles [R1, R2] and framed as factsheets [R3, R4], provides a key resource for stakeholders trying to increase uptake of PFR, making evident the need for normalisation.

### 3. References to the research

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**R1 – Harries T** (2012). The anticipated emotional consequences of adaptive behaviour: Impacts on the take-up of protective measures amongst householders in areas of flood risk. *Environment & Planning A*, 44(3). DOI: [10.1068/a43612](https://doi.org/10.1068/a43612)

**R2 – Harries T, McEwen L and Wragg A** (2018). Why it takes an 'ontological shock' to prompt increases in small firm resilience: Sensemaking, emotions and flood risk. *International Small Business Journal*, 36(6). DOI: [10.1177/0266242618765231](https://doi.org/10.1177/0266242618765231)  
REF2ID: 17-43-1491

**R3 – Harries T, McEwen L and Wragg A** (2016). Finding out why businesses respond in different ways to the risk of flooding. Available at <http://sesame.uk.com/understanding-behaviour/>

**R4 – McEwen L, Wragg A and Harries T** (2016). Co-production in the development of a prototype e-learning tool to promote small business adaptation to flood risk. Available at <http://sesame.uk.com/changing-behaviour/>

Quality assurance of the SESAME research and factsheets was provided by a steering group comprising academics from Heriot Watt University and The Flood Hazard Research Centre, and stakeholders from Cabinet Office, EA, Business in the Community and ARUP Group.

#### Key Grant

The key research was the project, SESAME – 'Organisational Operational Response and Strategic Decision Making for Long Term Flood Preparedness in Urban Areas':

- Investigators: Prof Coates (Durham); Dr Harries (Kingston); Dr McGuiness (Sheffield)
- Funder: EPSRC
- Duration: December 2012 to June 2016
- Funding: GBP1,049,917

### 4. Details of the impact

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#### 1. Impact on Defra, the Environment Agency, businesses, and communities affected by flooding

Since the publication of R1 in 2012, the Department for Environment, Food and Rural Affairs (Defra) and the Environment Agency (EA) have ended their reliance on information campaigns. They have instead launched pilot schemes to find ways of normalising PFR and involving the commercial sector. The impact of Harries' research on such policy decisions is evidenced in its citation in numerous public policy documents. These include the Property Flood Resilience Roundtable's [Action Plan \[S1\]](#) and reports by the Adaptation Sub-Committee of the Committee on Climate Change [S2], Defra [S3], the Social Market Foundation [S4] and an EA review of relevant behavioural insights [S5].

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A Defra Policy Advisor stated that Harries' research made *'a substantial contribution to [Defra and the EA's] work to increase take-up of PFR'*. He explained that Harries' work, with specific reference to [R2], challenged policymakers' assumption that the best way to encourage PFR was to provide a *'logical presentation of the benefits' and instead 'highlighted the strong role that emotion plays'*. This brought a *'change of direction'* in policy and practice which has *'contributed to reducing the cost, disruption and distress cause by flooding'* [S6].

Defra/EA launched two pilot schemes because of Harries' research. In 2013, they set up a GBP5 million scheme in order to normalise PFR. This scheme, Flood Resilience Community Pathfinder, funded locally-led projects that drew on local knowledge and wisdom and helped 60,000 property-owners improve their resilience to flooding. In 2019 a similar pilot scheme was launched - the GBP 3 million 2019-2021 Boosting Action to Make Homes and Buildings More Resilient to Floods. The report, written by WPI Economics, that underpins this scheme cites Harries' research 27 times. The WPI Economics Director described how Harries' work *'deepened our understanding of the broad range of (often counterintuitive) psychosocial influences on the take-up of resilience measures'* [S7]. These two pilots will reduce local authority costs, emergency responder costs and flood damage.

In addition, Harries' research profoundly affected how Defra and the EA work with the commercial sector [S7, S8]. The Policy, Strategy and Investment Research Theme Lead at the EA explained that she regularly sends the SESAME factsheets to colleagues and flood management authorities and that *'the SESAME research has also played a key role in shaping a training course for EA staff'*. She went on to say *'were it not for the SESAME research...I would not have been able to provide EA staff with accessible insights into SMEs'*. It remains *'the main source of evidence'* on SME flood resilience for the EA, which regularly sends it in response to enquiries from English local authorities, Welsh Government and Natural Resources Wales. In addition, the research *'helped put SMEs on the government's flood risk management agenda'*. Without it, Defra and the EA *'would have been less able to engage SMEs in flood resilience'* and *'the nation's SMEs would likely be more vulnerable to flooding'* [S8].

Harries' research was also a key factor behind a strategic innovation benefitting both households and SMEs: the 2016 establishment of the PFR Roundtable. His findings on businesses' sense of independence and reliance on in-group opinion persuaded Defra to *'get the business community to find its own solutions'* by asking it to establish and lead a roundtable of commercial stakeholders comprising the insurance industry, banks, engineering companies and others. This roundtable *'made significant progress towards the normalisation of PFR'* by raising the profile of PFR and facilitating dialogue between business sectors. It has also made substantive progress – for example, by developing a code of practice for the resilient reinstatement of flooded buildings [S7]. As summarised by Sedgwick's National Technical Director, chair of one the round-table's task groups, Harries' findings convinced the PFR Roundtable to *'avoid simplistic solutions that would [...] have been ineffective'* and to *'design [subsequent] campaigns to minimise the issues raised'* by his research [S9].

### 2. Impact on flood risk management innovation in the Flanders Environment Agency

When Defra shared the lessons of Harries' research with colleagues in Belgium there was *'a tangible impact on government policy'*. The Flanders Environment Agency stopped using information campaigns to change behaviours and instead adopted a bottom-up approach. The Agency engaged citizens in the towns of Ninove and Geraardsbergen via citizen consultation and citizen involvement in planning [S6].

### 3. Impact on the Insurance Industry

Harries' message on the importance of normalisation also had an important impact on the insurance industry. It also dissuaded one of the UK's two largest loss adjusters from attempting to convince homeowners to self-fund PFR and to instead *'persuade insurance companies to normalise PFR by paying for it as part of post-flood insurance-driven property reinstatement'*. As a result of this change of strategy, one *'large insurer'* now funds PFR for its customers [S9].

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### 4. Improving a national PFR website

Harries' research improved the Roundtable's web-tool that provides a one-stop-shop for PFR across Britain. The Task Group Chair commented that Harries' work '*provided much of the evidence base*' for the tool's development, '*challenged our assumptions about [users'] needs, preferences and decision-making processes*', enabled the Roundtable to '*optimise the tool to address the needs of [users]*', and consequently '*the web tool has significantly improved in both structure and content*' [S10]. The website receives over 1,000 hits a month. Due to these improvements, more householders and SMEs access information about PFR and investigate ways of reducing their vulnerability to flooding.

### 5. Sources to corroborate the impact

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**S1** – Defra (2016). [Property Flood Resilience Action Plan](#).

**S2** – Adaptation Sub-Committee of the Committee on Climate Change (2017). [UK Climate Change Risk Assessment Evidence Report](#). Chapter 5: People and the Built Environment. Committee on Climate Change, London.

**S3** – Defra (2017). [Supporting the uptake of low-cost resilience. Final Report](#). Joint Flood and Coastal Erosion Risk Management Research and Development Programme no FD2682.

**S4** – Social Market Foundation (2018) [Incentivising household action on flooding: Options for using incentives to increase the take up of flood resilience and resistance measures](#).

**S5** – EA (2020). [Applying Behavioural Insights to Property Flood Resilience](#). Project FRS17191.

**S6** – Letter from the Policy Advisor, Flood & Coastal Erosion Risk Management, Defra

**S7** – Letter from the Director, WPI Economics

**S8** – Letter from the Policy, Strategy and Investment Research Theme Lead, Flood & Coastal Change Risk Management R&D Team, Environment Agency

**S9** – Letter from the National Technical Director, Sedgwick PLC and Chair, Roundtable Task-group 2

**S10** – Letter from the Task Group Chair, Roundtable Task-group 3