

Presentation by

**Jessica
Lamond**

**Associate
Professor, Centre
for Floods
Communities
and Resilience,
UWE, Bristol**

Supporting the uptake of low cost resilience during the flood recovery process

British Damage Management Association Conference 2017

Property Claims, today's realities tomorrow's opportunities

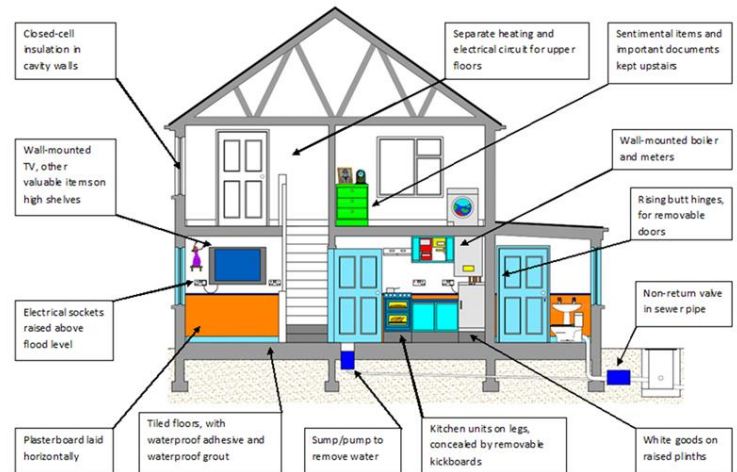
Supporting the uptake of low cost resilience

AIM: *Identify barriers and propose solutions to promote low cost flood approaches that would make properties at flood risk more resilient to damage from flood waters.*

Our partners: Defra, Mary Dhonau Associates, Cunningham Lindsey, Collingwood Environmental Planning, Birmingham City University, Tewkesbury Learning and Action Alliance



The Flood-Repairable House



Adapted from original image courtesy of the Eastern Solent Coastal Partnership (www.escp.org.uk)



Department
for Environment
Food & Rural Affairs

Cunningham
& Lindsey

MDA
Community
Flood Consultants



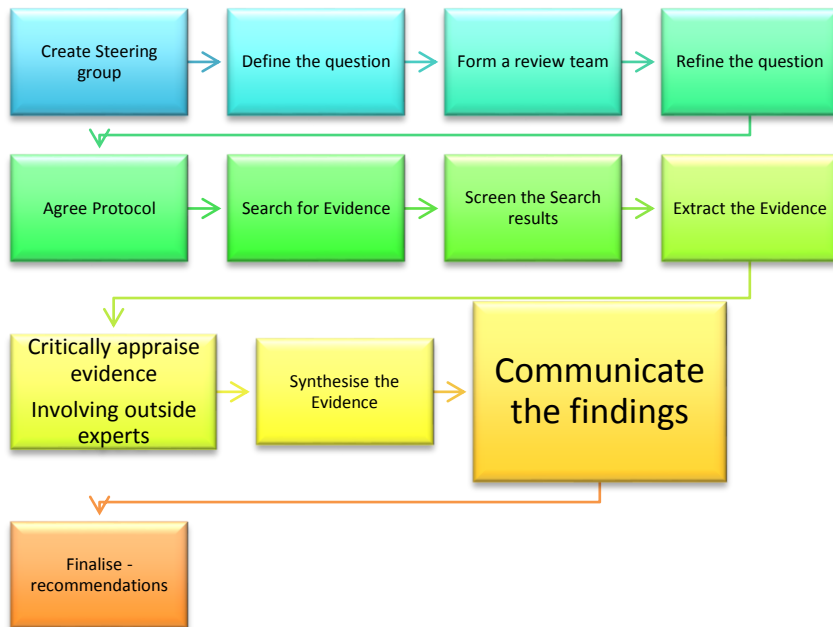
BIRMINGHAM CITY
University

Collingwood
Environmental
Planning

Rapid Evidence Assessment (REA)

“How can low cost adaptation approaches be used in existing residential and small business properties to limit the damage from flood water?”

- a critical assessment of existing **international academic and grey literature**;
- **telephone interviews** with 18 ‘expert’ respondents.
- **Face to face conversations** with 13 households and small businesses that had undertaken repairable adaptations.

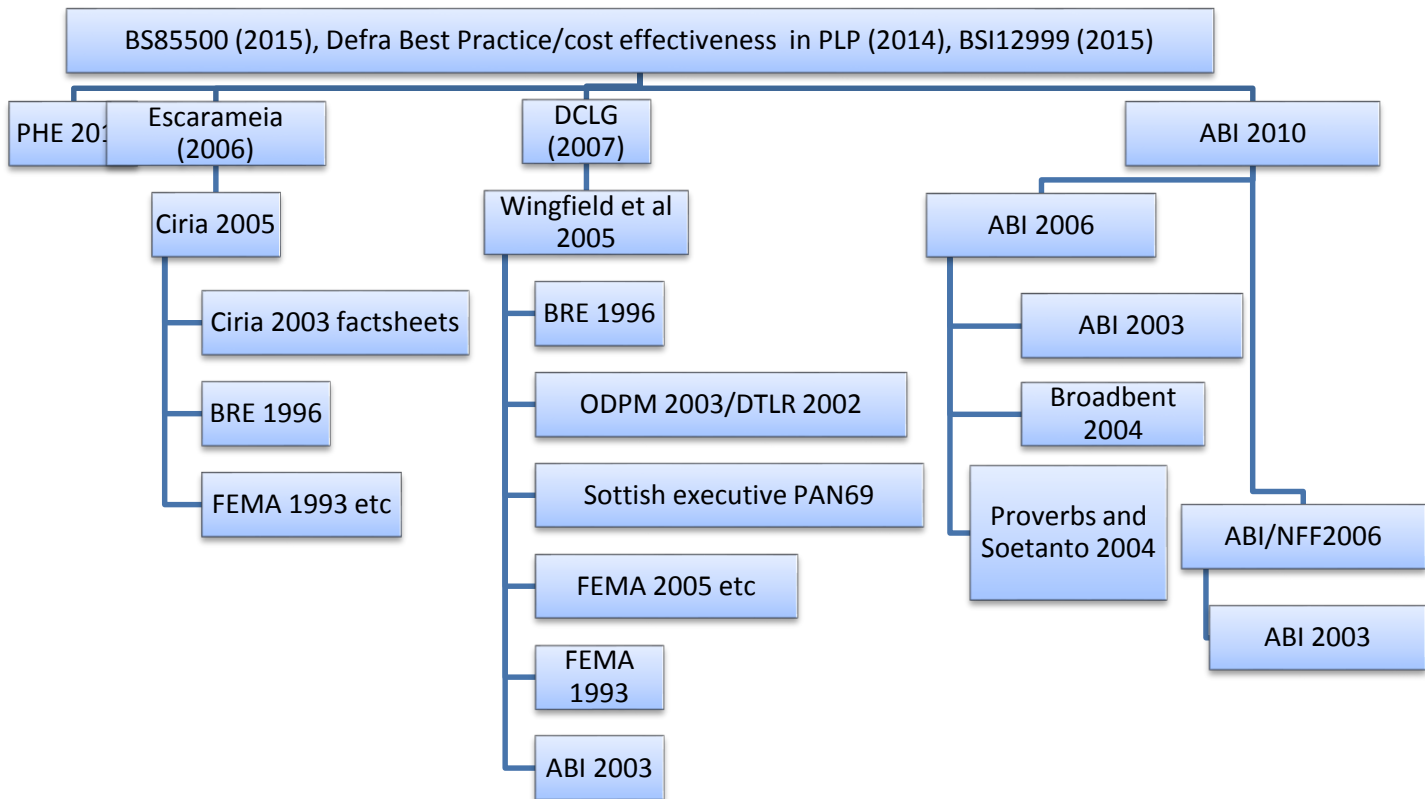


Strategies and approaches

- Keep water away (remove contents or raise above likely water levels, control flow)
- Keep water out of materials (resistant materials, waterproof coatings or containers)
- Allow water in (resilient materials, not damaged by floodwater, quick drying)
- Fast recovery (speed drying, air gaps, dry lining, disposable, cheap and cheerful)



Links between UK technical guides



Plasterboards/wallboards

- 1. Moisture resistant
 - Includes: Knauf-Moisture-Panel; Knauf Aquapanel tile backing board; Gyproc Moisture Resistant Board; GTEC Siniat Moisturecheck Board
- 2. Water resistant
 - Includes: Glasroc H TILEBACKER; Glasroc F MULTIBOARD; Gyprock Aquachek (Australian equiv) (glass fibre reinforced – formerly listed as strengthened), cement fibre board efg fermacell
- 3. Waterproof
 - Includes: Marmox-waterproof-insulation-board; Marmox-sound-reduction-board; Wedi Tilebacker
 - Wedi Tilebacker: ‘even when completely immersed for a month, Tilebacker takes up only half a per cent of water’.
 - Plastic and rubber based and magnesium oxide includes Dragonboard

Interviews with households/ small businesses

- Most had been flooded but one had bought a previously adapted property and added more resilient features
- Motivated to reduce disruption and stress rather than thinking about money
- Carried out their own research and had a mixed experience with insurers
- Wide variety of measures, novel ideas and strategies
- Several had been tested in real floods and performed well
- Some measures had evolved after further flood experience

“The minute the water was out of the house we were sitting in the lounge watching TV”

Interviews with practitioners

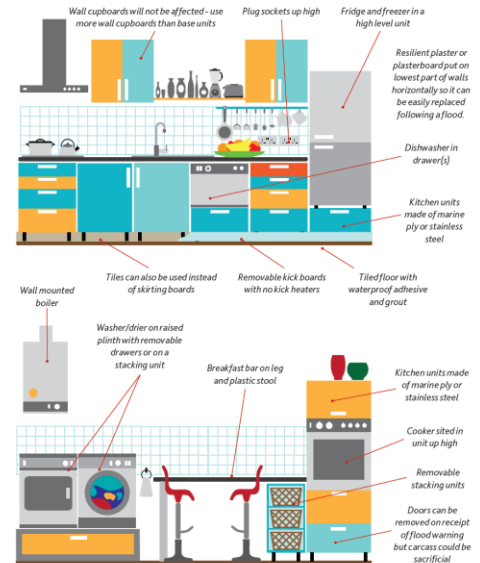
- Not possible to identify a single approach
- Expert advice important for some measures
- The importance of the recovery process to **facilitate bespoke advice for households from building professionals** was confirmed.
- **Resilience should be seen as home improvement**
- Concerns about lack of agency
- Barriers due to homeowner awareness or willingness to adapt
- **Practical limitations of offering advice within standard insurance processes**
- Performance implied by lack of poor reports
- **Would like more guidance and examples to improve uptake and effectiveness**

New or highlighted materials and measures

- Nano-technology
- Membranes
- Kitchen and bathroom strategies
- Resilience of timber
- Cleaning materials
- Internal barriers

Resilient measures for lower and mid level floods

Small design adjustments (as illustrated below) can help reduce the damage of a lower level flood. Changing the fabric of the kitchen units can be helpful in a midlevel flood.



Case Studies



Digital testimonials created as part of the Defra Floodrepairable project FD2682

Roger's resilient house

A householder describes the way he prevents flood damage and why cleaning up after a flood is now just an afternoons job

<https://vimeo.com/193699083>

The minute that the water was out of the house we were sitting in the lounge watching TV

Householders describe how they have prevented damage to their home by doing their own research on flood resilient materials and flood adaptation and gradually making changes

<https://vimeo.com/213901038>

Judy's kitchen

A flooded householder describes how she made her kitchen more resilient and repairable

<https://vimeo.com/157822842>

Case Study: BUCKINGHAMSHIRE Minimising the damage

Four-storey older property, flooding from watercourse/groundwater. Flooded twice since current owners' purchase, but long history prior to this.

Low-cost measures include:

- Unplugging all electricals in advance of a flood
- Sofa has legs rather than fabric to the floor
- Tiled floors and sacrificial carpet tiles
- Raised Boiler, tumble drier on top of washing machine
- Owner keeps a sturdy plank to help lever furniture/white goods upon to bricks
- Internal doors are Pitch Pine – these have now survived two floods without damage.



Sump and pump sited in corner of lounge; carpet tiles over concrete floor are easily removable



Antique furniture raised on several tinks, which are enclosed in plastic bags (to prevent water seeping up into wooden legs)



Kitchen units made of Tamarite Ply (these have already survived a flood event)



Sofa on legs with sacrificial carpet tiles

Why did the owners choose this approach?

"You can't keep the water out, but you CAN manage the water when it comes in ... so it doesn't cause damage"

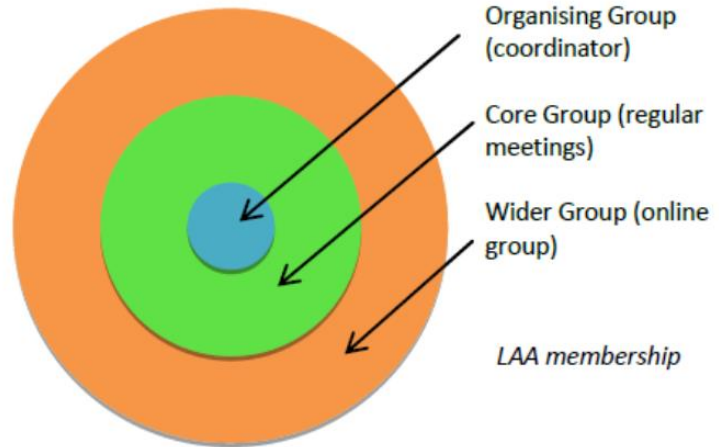


Demonstration project – Action research

Five innovations

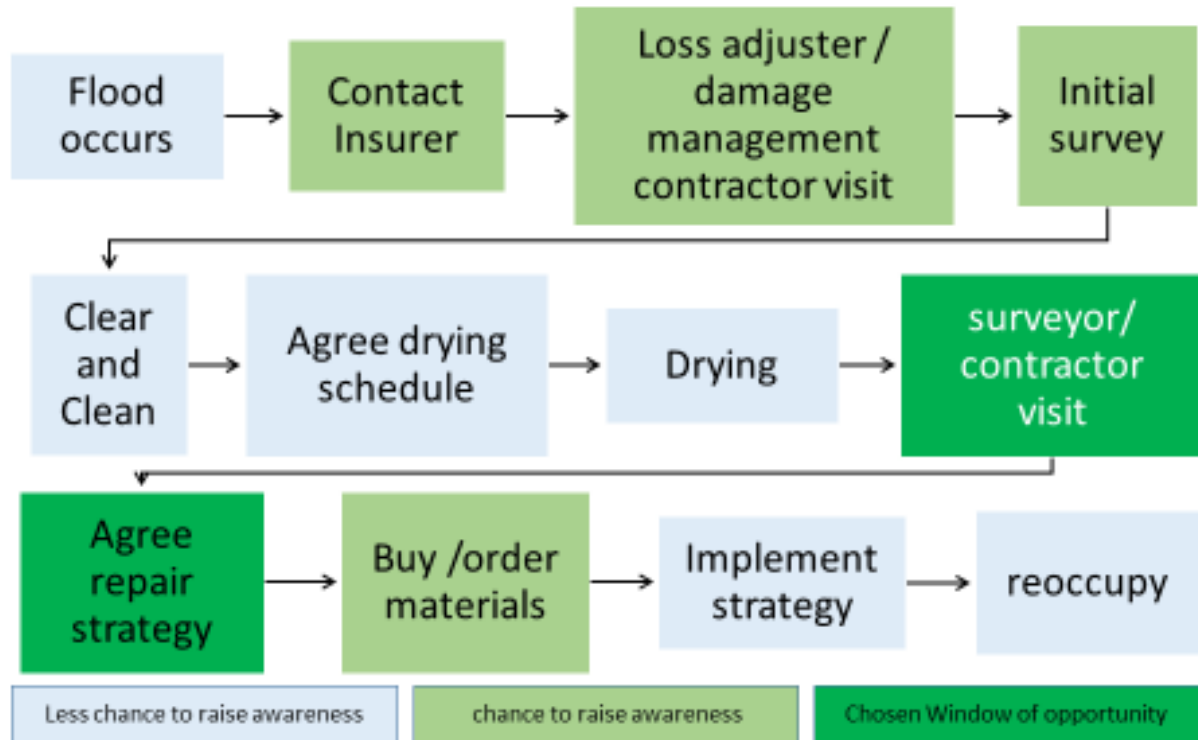
1. Encouragement of installation of measures during property upgrade through advice at property transfer
2. Displays on flood resilience materials at builders' merchants and DIY shops
3. **Resilient reinstatement encouraged through loss adjuster/ building surveyor checklist**
4. Recovery planning in advance of flooding encouraged through fire service/ flood warden or LA visit
5. **Improved resilience of kitchens and bathrooms through creative kitchen/bathroom design**

Co-designing the innovations: Building the Tewkesbury LAA



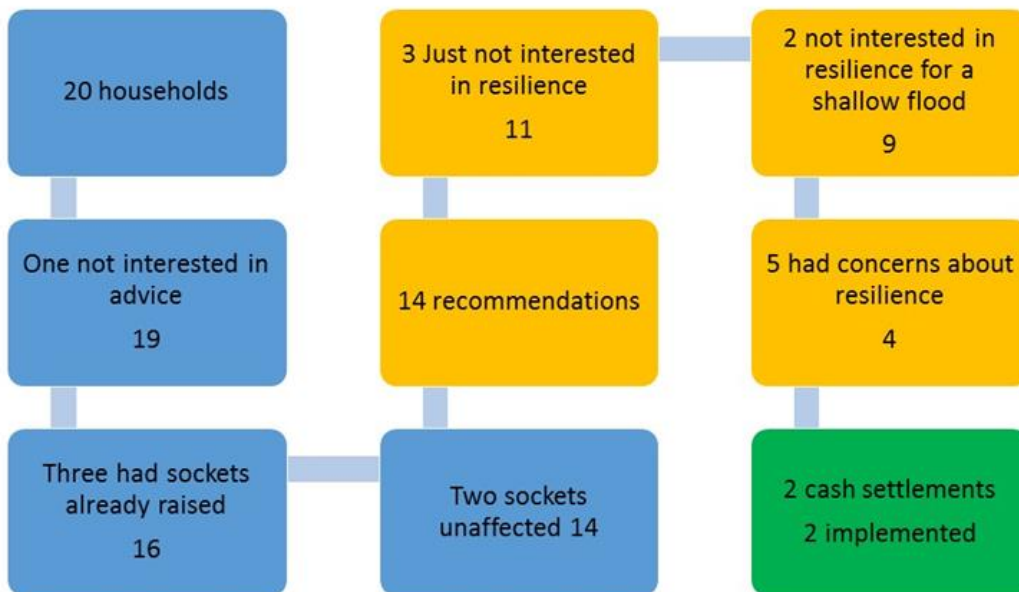
Resilience during recovery

Flood Reinstatement (insured model) after (Tagg *et. al.* 2010)



Results from Demonstration

Recommendations for sockets



Loss adjuster/ surveyor checklist

What was learnt:

- Window of opportunity at reinstatement of property following a flood.
- Loss adjusters and Surveyors are usually employed by insurers to assess damage and recommend process for recovery that are within the terms of insurance.
- Property owners/occupiers not always interested even if it is free.
- Surveyors' checklist need not include contents.

What might be changed/ further developed:

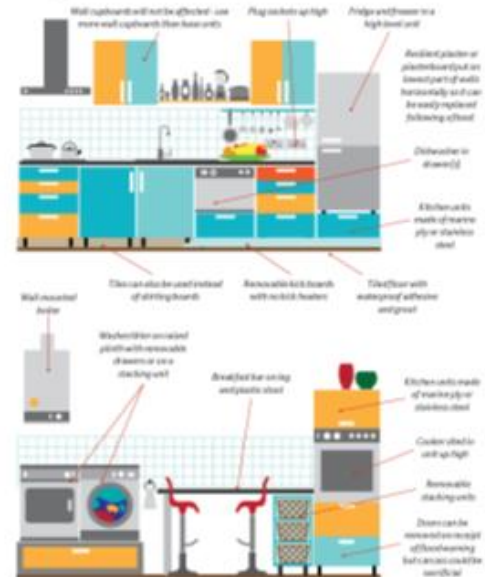
- New checklist version / handbook
- Surveyors and loss adjusters on steep learning curve regarding repairable adaptation approaches;
- some extra support or systemisation would be helpful.
- Leaflets for surveyors to leave giving tips on contents/other adaptations.
- Understanding of process – change in insurance process

Innovation 5: Kitchen/bathroom design



Resilient measures for lower and mid level floods

Small design adjustments (as illustrated below) can help reduce the damage of a lower level flood. Changing the fabric of the kitchen units can be helpful in a midlevel flood.



Summary



- Practitioners recognize **multiple barriers** to implementation of repairable reinstatement
- After a flood, the checklist was shown to have **potential in generating discussion around repairable reinstatement.**
- However the checklist **does not directly address some of the other crucial barriers** such as resource and aesthetic concerns.
- Knowledge of and belief in measures and skill in communication are also requirements for surveyors.
- It is important that any such tool is used in conjunction with, **further training and development of practitioners.**
- **Process of recovery needs further investigation**

References



- LAMOND, J., ROSE, C., JOSEPH, R. & PROVERBS, D. 2016 Supporting the uptake of low cost resilience: summary of technical findings (FD2682). London: Defra.
- LAMOND, J., ROSE, C. & PROVERBS, D. 2016. Supporting the uptake of low cost resilience: Rapid Evidence Assessment Final Report (FD2682). London: Defra.
- JOSEPH, R. 2014. *Development of a comprehensive systematic quantification of the costs and benefits (CB) of property level flood risk adaptation measures in England*. PhD, University of the West of England.

Supporting the uptake of resilience during recovery Project

- November 2017- July 2018
- Suggestions welcome
- Contact us
floodrepairable@gmail.com