People and Natural Disasters

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Towards an understanding of social vulnerability and resilience to disasters.
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Ernabella (Pukatja) ML 5.7 Earthquake 2012

Source: Dan Clark, Geoscience Australia
Newcastle ML 5.7 Earthquake 1989
South-East Queensland floods, Grantham 2011
Black Saturday Bushfires, Victoria 2009
We are not powerless
Towards an understanding of social vulnerability and resilience to disasters
Social impacts

Social assessments: using external data

• Cities projects (Cairns 1999)
• 2009 Victorian Bushfires

January 2011 – “The Summer of Disasters”

Engineering survey of impacted households

• Brisbane/Ipswich floods
• Tropical Cyclone Yasi

Personal stories collected, needed to know more
On this 28/11/13 the warnings on the radio by the Brisbane City Council were quite dire, but we felt we had to be prepared as my husband, myself and 2 family members moved a lot of our furniture higher up. It was an awful day with the prospect of flooding. My husband died of a sudden heart attack that evening.
house. Ian worked very hard to return our lives back to "normal". Life's lessons were reinforced during this period. The importance of good family and friends who are irreplaceable. Unlike all the unnecessary clutter that we accumulate throughout our lives. It was actually a great time for bringing our neighbours and community together. We were all in similar situations and the offering of support was sometimes very overwhelming even from strangers. Our family and friends were great with their continued love and support. These events will forever be etched in our memories.

Our home has always been a place to relax and enjoy with our family and friends. Although we were all part of Queensland's worst natural disaster with over 100,000 people directly affected by the floods, we were resilient in achieving our return to our "normal" life.
Words matter

Did you receive a warning to prepare yourself or evacuate when the January 2011 flood was imminent?

“No warnings except those on TV, by then we had moved everything”

“Timing [too late]. Had started to raise furniture”

“Didn't get any only from radio”

“Too busy packing to have time to monitor tv/radio/social media”
Introducing 1% man

1%
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Warnings

Heard warning (46%)

No warning (54%)
Warnings

- Warning, relevant (38%)
- Warning, not relevant (9%)
- No warning, not relevant (27%)
- No warning (20%)
- No warning Relevant (6%)
Warnings more apparent

“Did you receive a warning to prepare yourself or evacuate when the January [2011/2013] flood was imminent”

2011 (46%)

Yes

2013 (71%)

Yes
Wivenhoe Dam
Tegwen: a case study
Tegwen: a case study
Tegwen: a case study

Water level
Tegwen: a case study

• Evacuation
• Living away from home
• Still a lot of work to do
• Insurance didn’t cover everything
• $1.3 billion to be found
Tegwen: a case study
Tegwen: a case study
Tegwen: a case study

- The household took on extra employment to meet costs; impacting on family support
- They had long term health issues
- Experienced access problems with support services
- Experienced constant stress and demands on time and energy
- There was an emotional impact on the children
Tegwen: a case study

- The home is still not fully complete (25%)
- It meets all current building codes
- New home now raised above flood height (5%)
Community Resilience after the 2011 Brisbane Floods

3.2m water height

Flooded house

Repaired house
Tegwen: a case study

- The home is still not fully complete (25%)
- It meets all current building codes
- New home now raised above flood height (5%)
  - Most houses (62%) were repaired like-for-like
Community Resilience after the 2011 Brisbane Floods

2.4m water height

Flooded house

Repaired house
Tegwen: a case study

- The home is still not fully complete (25%)
- It meets all current building codes
- New home now raised above flood height (5%)
  - Most houses (62%) were repaired like-for-like
- No habitable area underneath (12%)
- Separate electrical circuits for each floor level
- Has water resistant wall linings (9%)
- Has non-absorbent insulation (2%)
- Hot water heater, gas & electricity meters above flood level (1%)
- Services are fixed to perimeter fence
- Purpose built loft room
- Valuables box
Tegwen: there’s more
Insurance
Flood insurance as part of building insurance
Definition of flood varied yet crucial to payout
Multiple types of flooding led to partial cover
  • Storm water
  • Riverine
  • Flash flooding
Insurance double edged sword
  • Some households felt dealing with insurance companies more stressful than the flood
  • “But I would suggest that anyone living on the river has the best flood insurance, like we did. If we weren’t insured I would be a nutcase in a mental hospital.”
Believed had insurance prior to floods

Thought had insurance (71%)

No insurance (29%)
Insurance claims paid

Full claim (32%)

Partial claim (13%)

No insurance (55%)
Impact of 2013 floods

“…so really the 2013 floods were a “non event” for us – I’d actually forgotten that we were at risk until this survey arrived.”

“My wife had significant trauma responses following 2013 floods, and this forced us to move house. This has been a huge burden on our family emotionally, practically and financially.”

“It scratched at the scab of flood fear.”

“What can one do with the anger?” 
Mental health

“11: When it now rains heavily, do any members of the household become anxious or nervous?”

Yes: 72%
Relationships
Towards an understanding of social vulnerability and resilience to disasters
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Rising from the ashes
Questions?

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