Impact of the 2011 flood event on a Brisbane industrial area

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Four messages!

• Impact of flooding in relation to industrial properties is huge yet not well documented.
• Communication about flood risk needs to be conveyed by multiple media and be timely and accurate.
• The community expects accurate information, protection and fairness.
• Lessons for planning and planners.
Aims

• To explore the environmental, social and economic impacts of the 11-12 January 2011 flood in the industrial area of Rocklea, Brisbane; and

• To identify the business community’s expectations for government, implications for risk communication, and planning approaches for consideration

Background: More than 12,000 residences and 2,500 commercial properties were flood-affected in the 11-12 January 2011 Brisbane flood
Methods

• 8 semi-structured interviews of owners of flood-affected industrial businesses conducted in August 2011
• Participants were aged 45 to 72; half renters
• Identified on a suburb map the flooded area affecting their property, and provided photos of impact.
• Analysis of government reports and newsletters

Height of flood water on containers
Results: Communication

• Information on flooding inaccurate and too late:
  – Vehicles could have easily been moved
  – Impossible to relocate large expensive industrial machinery or pieces of equipment (eg forklifts, containers), by noon warning on 11 Jan when one access road was already cut and many workers sent home

• Flood risk information on Council flood maps:
  – difficult for some to interpret
  – query if takes account of current development on floodplain and increased impervious surfaces
Results: Environmental Impact

• **High levels of contaminants** in Oxley Creek after event from industries and sewage treatment plant:
  – quantifiable concentrations of 8 herbicides, 9 pesticides, 5 industrial chemicals, 10 polycyclic aromatic hydrocarbons (PAHs) and 3 fractions of total petroleum hydrocarbons (Qld govt 24-2-11).
  – values for ecosystem protection exceeded for metals: aluminium, arsenic, chromium, cobalt, copper, iron, lead, manganese, uranium and zinc (DERM 25-3-11)
  – high enterococci

• **1946 hazardous containers** in Oxley Creek cleared by HAZMAT team within a month.

• **Vegetation damage**: trees / revegetation projects lost; pest plants dispersed.
Results: Economic Impact

100s of transport containers ruined

- **Loss of machinery**, equipment, stock, vehicles, forklifts, computers, furnishings, and records – valued at $500,000 into millions

- **Business closures** from 12 weeks to forever. Those not closed, said could not recover if flooded again.

- **Many employees affected:**
  - we’ve since closed the business...sold the shed...and still have a debt
  - ...no market for the machinery - 8 employees all got jobs except –those with disabilities; I haven’t had a wage in seven months (int)

- **Poor insurance payouts:**
  - I’ve been paying $26,000 a year ... We were covered for flood but not
  - ...rising water...it was May before we got a letter from them saying no insurance (int)
Results: Social Impact

36 years of lost history

• Health impacts (respiratory problems, skin irritations, and infections) from spilled engine oil, chemicals, sewerage
  — everything you touched had a film of black oil on it. All around the walls, everything. All you can do is clean it up (int). A chemical place...lost tons and tons of chlorine and it was a chemical bloody nightmare (int). No we didn’t have face masks on; we had gum boots gloves and ...disinfectant (int). We both ended up with tetanus shots and I had a double dose of antibiotics (int).

• Mental health and well-being:
  — Emotional trauma, first time on medication: 34 years just washed out the door....I sat on the footpath and cried (int); so busy and burnt out from cleaning and recuperating from the damages, no time, patience or words to fill out insurance and government forms
  — Delayed retirement /loss of superannuation – will take three years to recover (int)
  — Volunteers wonderful: 20 or 30 people turned up ... friends, ...clients...friends of friends, but threw away too much - you can’t stand there every two minutes saying no don’t throw that (int)
  — Reports of suicides
Conclusions

• Communication – multiple media; timely, accurate
• High expectations that would not flood due to construction of Dam, and proper operation of Dam
  – six weeks of rain on and off it's got to start ringing alarm bells ... whoever is running the water down there they were just greedy because you don't store that much water
  – buildings should not be approved in flood prone areas but if approved, recommended flood mitigation advice should be accurate
• Flooding compounded by additional impervious surfaces in the floodplain
  Make sure it doesn’t happen again
Implications for planning and building control

Over 50 recommendations specifically about planning and development assessment (apart from floodplain mapping and building controls) in the Queensland Floods Commission of Inquiry e.g. ‘works in a floodplain should not reduce on- and off-site flood storage capacity’.

However we need to take account of cumulative effects of development.
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