A Review of Flood Resilience in Fiji

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Sigatoka, 1993 (Source: Pacific Island Monthly)

Nadi, 1999 (Source: Mark Swamy)

Labasa, 2003 (Source: Pradeep Lal)

Navua, 2004 (Source: SOPAC)
Benchmarking current flood risk management practice
1. Hazard assessment (mapping)

- Some historical flood extents
- Poor hydrological records
2. Risk assessment

- Options often implemented without benefit-cost analysis
3. Floodplain management measures

- Emphasis on structural

**River dredge is the answer**

February 10, 2012

Prime Minister Bainimarama said the only solution to solving the flooding issues were that all rivers located close to villages to be dredged.

**Nadi river diversion project picks up pace**

July 23, 2013

This project is expected to provide a major solution for the tourism town’s notorious flooding problems.
4. Planning

- Limited and non-implemented planning policies
- Some sensible land use planning on ad hoc basis
5. Warning and Emergency Management

- Historically poor with technical and institutional constraints
- Recently, significant investment in EWS with international funding

Source: Fiji Times, Feb 2009
6. Strategic management

- Historically reactive not strategic
Barriers to improving flood resilience
1. Contested understandings

- Attribution of the March 2012 flood disaster:
  - Heavier rain?
  - Sea level rise?
  - Deltaic subsidence?
  - Dam spill?
  - Deforestation?
  - Siltation of waterways?
  - Reclamation of tidal mangrove flats?
  - Increased development of floodplains?
  - Deficiencies in flood warning/emergency response?
  - Complacency?
1. Contested understandings

- Is rainfall becoming more intense? (Nadi)
  
  **YES** (Hay 2006, 2009)  
  **NO** (PCCS)

  - Rainfall of 400mm+/day now more frequent:
    
    1966-1985: 185 yrs
    1986-2005: 46 yrs

  - No significant trend

  *Least squares linear trend of 1.49 mm/decade*  
  *X: insufficient data*
1. Contested understandings

Record of 'major' floods at Rarawai Sugar Mill, Ba, Fiji, 1892-2012
2. Population growth and urbanisation

Barriers to improving flood resilience
2. Population growth and urbanisation
3. Land tenure

- 84% owned by indigenous Fijians → constraints on dwelling locations

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More Fiji farmers homeless after leases expire

Fiji's National Farmers Union has called on the interim administration to pay cash compensation to all farmers whose leases have expired.

The union says families around the country are dismantling their homes.

Interim Home Affairs Minister Ratu Talemaita Rateinele said there were no plans to provide any assistance to the families.

Farmers' Union president Krishna Chand Sharma says the government should be paying cash grants of 20 thousand Fijian dollars to these farmers, as it did for other farmers when their leases expired.
4. Poverty

- 35% below poverty line → limited capacity to withstand and recover from floods

Destroyed house at a settlement in Ba (Source: Fiji Government, Jan 2009)
5. Economic and political instability

Fiji Gross Domestic Product Growth

Source: World Bank, July 2013
5. Economic and political instability

- Shallow tax revenue base → no budget for disaster risk reduction
- High emigration of experienced personnel → loss of institutional flood memory
6. Governance issues

- Narrow
- Fragmented
- Externalised
Advancing flood resilience: the Nadi Integrated Flood Management project
Reasons for optimism

- Comprehensive hazard and risk assessments
- Integrated Flood Management Plan using structural and non-structural options
- Answers to vexing questions
- Governance via Nadi Catchment Committee including community representatives
Reasons for scepticism

- Desire for a quick-fix means options being pursued in advance of a complete assessment
- Bias towards structural options; planning progress doubtful
- Largely ‘top-down’, pro-development ethos
- Funding to advance similar projects?
Conclusion

- Some progress e.g. flood warning systems
- Long way to go
- Significant barriers e.g. governance
- Nadi IFM project offers promise

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