Supporting self-recovery after disasters

S. Sargeant, T. Dijkstra, A. Finlayson (geosciences), B. Flinn, H. Schofield, L. Miranda Morel (CARE International), E. Lovell, J. Twigg, (ODI), A. Albuerne, V. Stephenson, T. Rossetto, and D. D'Ayala (EpiCentre)

‘Self-recovery’

Rebuilding in Budhatum VDC, Nepal (April 2017)

“Self-recovery in post-disaster shelter is not the exception but the norm. Following earthquake, flood or storm, ***the majority of affected families will inevitably rebuild their homes themselves, using their own resources****, but there is little support from the international community to encourage good safe building practice.”*

Parrack et al. (2014)

Investigating self-recovery

- Our multidisciplinary approach
- Findings from rural and urban/peri-urban settlements in Nepal and the Philippines (2017, 2018)
- Thoughts on improving support to self-recovery from an earth sciences perspective

Local builders in Budhatum VDC, Nepal (credit: L. Miranda Morel)

Our approach

Philippines (Typhoons Haiyan and Haima)

Nepal (Gorkha earthquake)

How do individual households and communities recover from disasters?

- What constitutes recovery for individuals and communities affected by disasters?
- What are the strategies adopted by households and communities to self-recover from disasters?
- How do various actors support (or hinder) the self-recovery process?
- What are the specific interventions (or conditions) that may support (or hinder) safer self-recovery?

Tools and methods

Desk-based reconnaissance of physical environment and review of scientific info

Transect walks

Observation and visual documentation

Building surveys

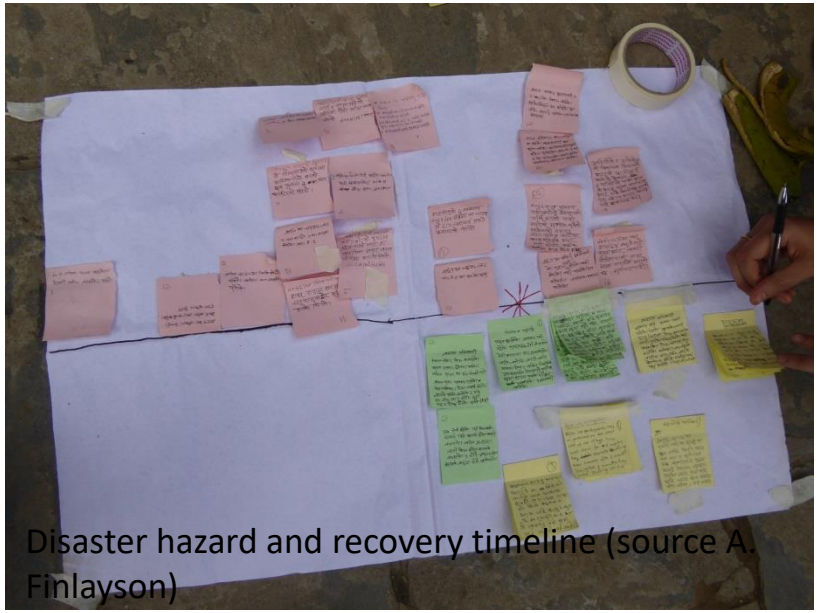
Small focus groups

Semi-structured interviews

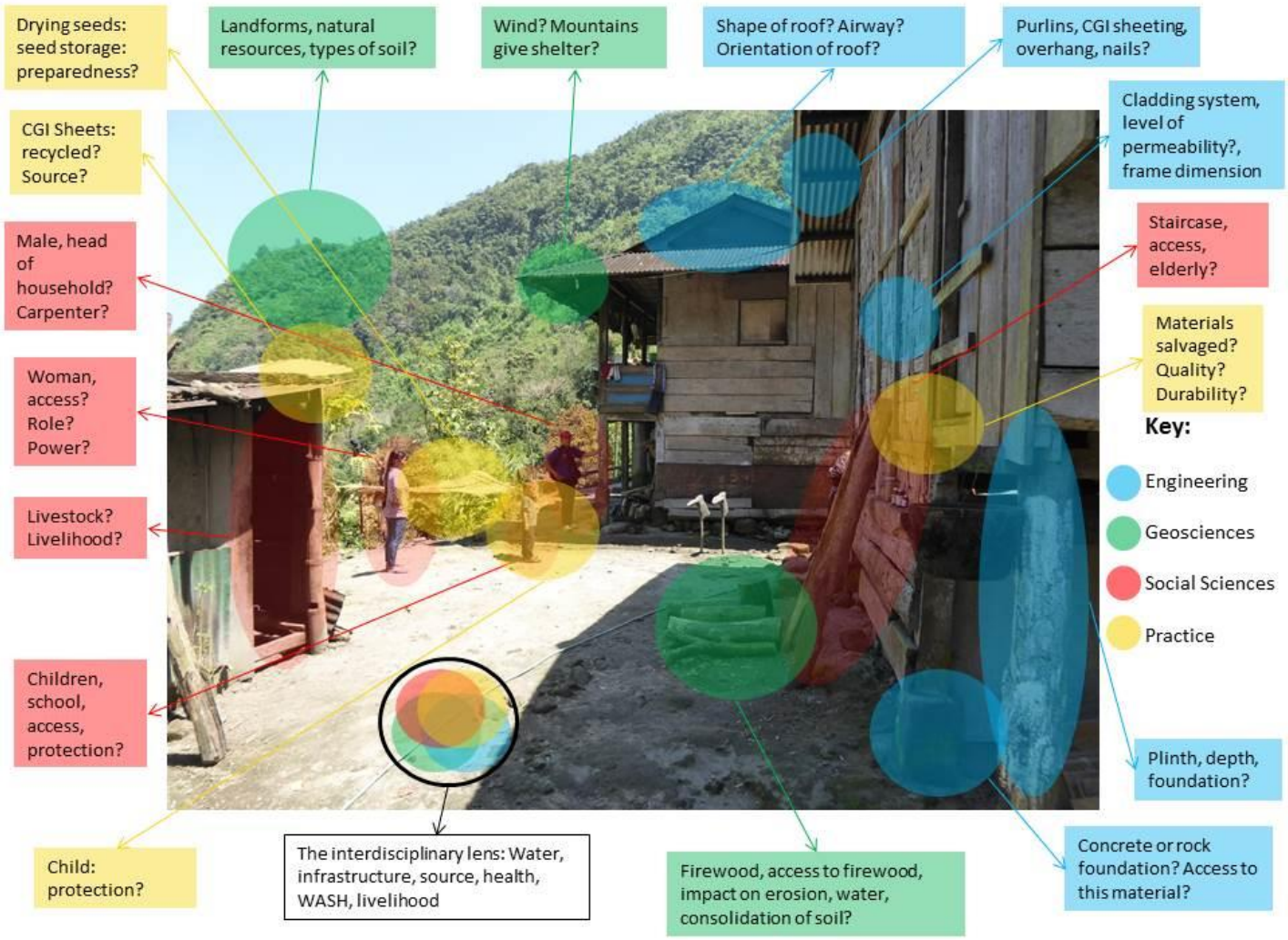
Timeline mapping

National level workshops

Focus group discussion in the Philippines (source: A. Finlayson)


Disaster hazard and recovery timeline (source A. Finlayson)

A multidisciplinary view of self-recovery

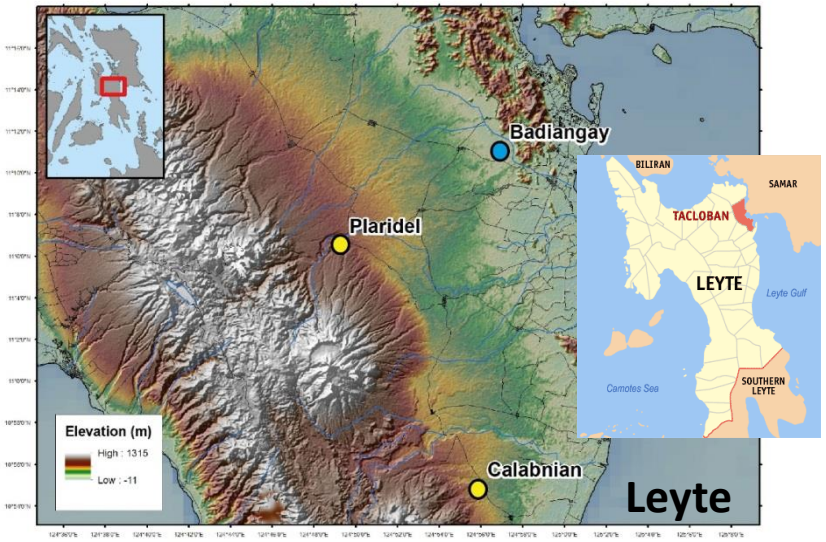


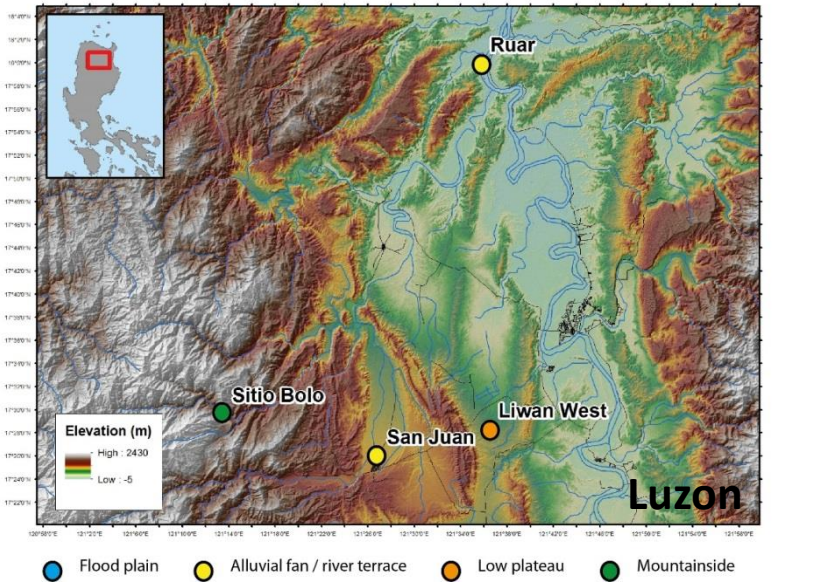
(source: L. Miranda-Morel)

Self-recovery after typhoons in the Philippines

- Typhoon Haiyan (crossed Leyte 8/11/13)
  - Over 1 million houses damaged (~50% completely destroyed), ~3.5 million families affected, c. 6500 killed)
- Typhoon Haima (crossed northern Luzon on 19-20/10/16)
  - Significant flooding and landslides
  - > 90000 houses damaged, 14000 totally destroyed


Damage to Tacloban City caused by Typhoon Haiyan in 2013 (© Reuters)





Findings from the Philippines

- Communities are exposed to typhoon-related hazards, La Niña/El Niño, earthquakes, volcanic hazards (repeated damage to livelihoods)
- Evidence that awareness of hazards and perception of event frequency has influenced rebuilding
- Damage to roads and bridges by floods and landslides affected early recovery
- Maybe some engineering interventions making things worse
- Access to clean water still an issue
- Environment seems to influence recovery more than the disaster itself

Self-built houses in the no-build zone

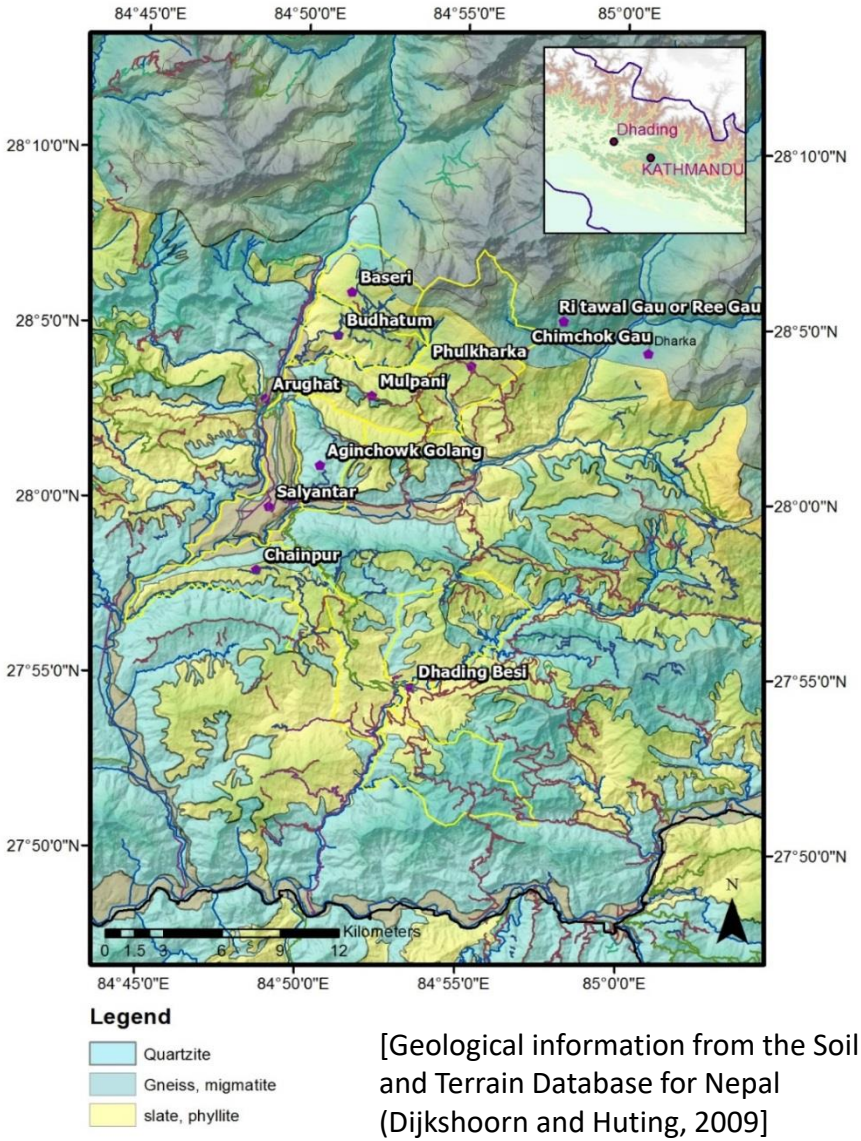
Houses for people who have been relocated

(photos taken by A. Finlayson)

Self-recovery after the 2015 Gorkha earthquake

- 25 April 2015 (7.8 Mw)
- Widespread heavy damage, c. 9000 people killed and 20000 injured
- Many houses completely destroyed and widespread landslides

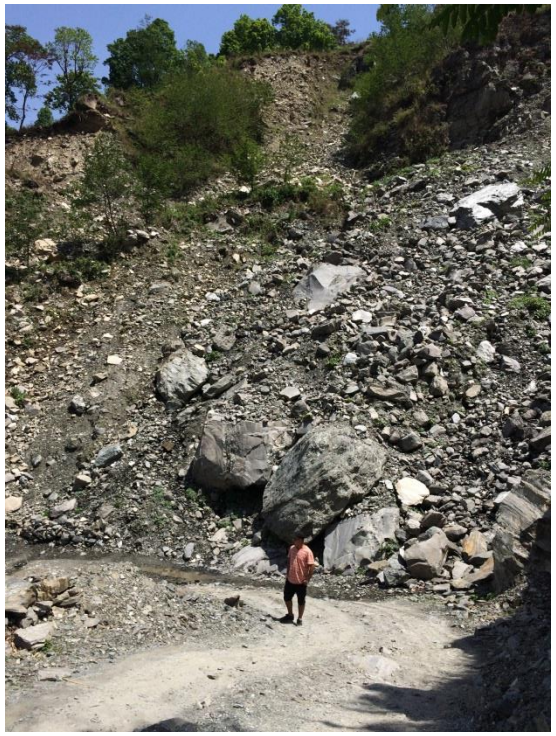
Damage to a village in Ree VDC, Dhading District (Kathmandu Post, 2016)



[Geological information from the Soil and Terrain Database for Nepal (Dijkshoorn and Huting, 2009]

Findings from Nepal

- Dynamic environment with multiple hazards
- Impact of hazards on infrastructure (esp. roads) and water supply is having a major impact because it requires people to divert their attention from rebuilding
- Limited choices/power



Landslides affecting roads in Darkha VDC

Constructing foundations in Chautara (source: A. Finlayson)

- Some people have lost ‘confidence’ in their environment
- Lack of information (e.g. on ground cracks) and skilled labourers also having an impact

Final thoughts on supporting self-recovery from a geoscience perspective

- Self-recovery is strongly affected by the physical environment. The impacts go beyond shelter (e.g. WASH, infrastructure)
- Need to provide very local-scale scientific/technical information for a very wide area in a way that is useful for householders
- Need to remove barriers and create an 'enabling environment' in which people are able to self-recover

Landslide blocking road above Sitio Bolo, Luzon (source: A. Finlayson)

Thank you

Topics for discussion

- How can we help lift the barriers to peoples' recovery (from an engineering geology perspective)?
- How do you ensure that people who have been forced to move or are living somewhere dangerous are able to get knowledge about the environment that's useful and they will be able to use?

Some context for our discussion

- Move towards ‘multi-purpose cash transfer’ in the humanitarian world
- Humanitarian aid shifting towards providing information and knowledge so that communities can make informed choices
- Difficult choices: if helping lots of people lift from ‘unsafe’ to ‘a little bit safer’ better than trying to help a smaller group of people be as safe as possible? What are the easy wins?

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