



“Improving urban neighbourhoods for the poor – Community-based landslide risk reduction”

Dr Liz Holcombe

Lecturer, University of Bristol

Consultant in Landslide Risk, LCSUW, World Bank

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Time: *4.00-5.30 pm*

Increasing urban landslide risk...

- Is climate change is the main driver for rainfall-triggered urban landslides?...
- ...no, what matters is what you build, where you build, and how you build (*Pielke et al. 2008*)

Components	Urban drivers (vicious cycle)
Hazard	Development activities can reduce slope stability
Exposure	Poorest often live in most hazardous locations
Vulnerability	Low community resilience to shocks, easily damaged houses
Total Landslide Risk	Rapid urbanisation



...limited landslide risk reduction

- Very little has been done on the ground (*Wamsler 2006*)
- Providing public with info on hazards doesn't necessarily lead to preparation (*Paton 2003*)
- DRR knowledge is not trickling down (*Wisner 2009*)

Components	Ex-ante DRM options
Hazard reduction	Slope stabilisation measures Control development
Exposure reduction	Control development Early warning
Vulnerability reduction	Increase community resilience Increase building reliability
General risk reduction	Raise public awareness Transfer risk (insurance)



Questions and challenges

- What are the **physical drivers** of the landslide hazard?
 - Slope stability processes highly localised
 - Hazard maps at wrong scale to identify causes
- How can **communities and governments** reduce the hazard?
 - Limited local knowledge base to identify landslide hazard (UNDP, 2006)
 - Limited resources to invest
- Can community-based landslide hazard reduction **work and pay**?
 - Evidence is needed if practice and policy are to change



Management of Slope Stability in Communities

MoSSaiC: science and local knowledge

Understanding slopes

MoSSaiC
Management of Slope Stability in Communities
www.mossaicstucia.com

Slope stability is affected by changes in:

slope geometry -
e.g. making it steeper
the load upon it -
e.g. building a house
the strength of the soil -
e.g. adding water and/or
removing vegetation

rainfall

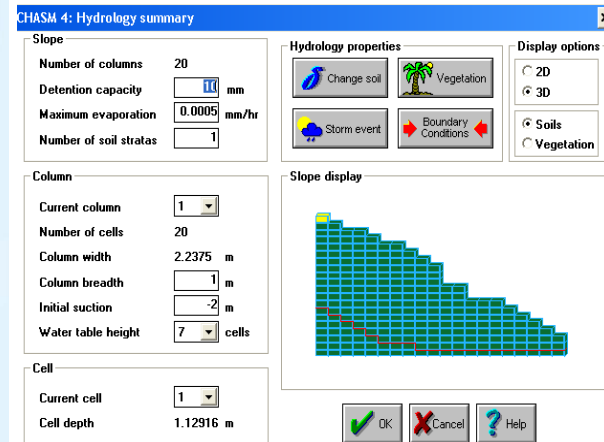
rock

soil

water level in ground rises

- 1 Water from roof
- 2 Water from ground surface
- 3 Un-lined drains and gullies
- 4 Water from household plus foul water

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Community-based landslide risk reduction can work for urban neighbourhoods

- Science base: combine local & scientific knowledge at the correct scale
- Community base: learn by doing, delivery on-the-ground
- Evidence base:
 - **It works:** 12 Eastern Caribbean communities withstood intense rainfall events
 - **It pays:** initial studies show benefits exceed costs by 2.7:1
 - **It helps:** short-term employment, contracting/ construction experience, rainwater harvesting, less flooding, fewer mosquitos



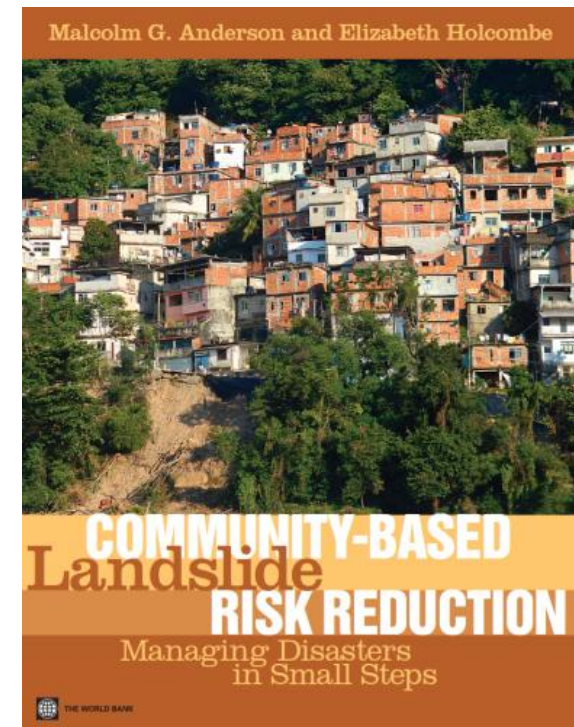
Implications for Policy & Practice

Learning by doing:

- changes **perceptions** about:
 - possibility of landslide hazard reduction
 - causes and solutions
 - role of science and local knowledge
- changes **capacity**
- changes **practices and policies**

Leading to wider uptake:

- MoSSaiC **flexible blueprint**



Closing the gaps

