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# Disaster and Development: implications and applications

Part of a Short Course on Reducing Risks and Managing Disasters: the  
Integrated Approach

23<sup>rd</sup> - 30<sup>th</sup> May, 2010  
GRF Davos Risk Academy, Switzerland

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## Overview of Session

- Disaster and Development in the risk cycle
- Implications and applications of disaster risk assessment in development, and sustainable development in disaster risk reduction
- Recovery planning and decision making: getting development out of disaster
- Questions and Discussion

## Why Integrate Disaster and Development?

‘to understand disasters in development and development in disasters’

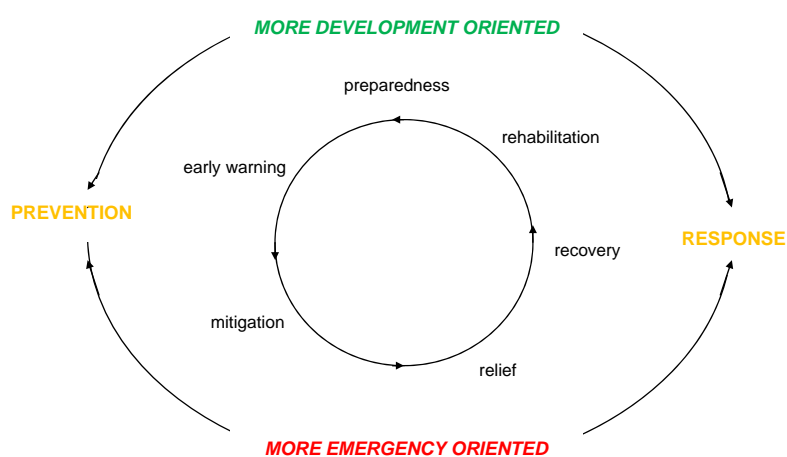
... which includes implications and applications in fields such as for example:

*community based disaster reduction*  
*health centred disaster risk reduction*  
*social resilience, adaptation and wellbeing*  
*disaster response and sustainable development*  
 ... amongst others.

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## Disaster Management Cycle and Development

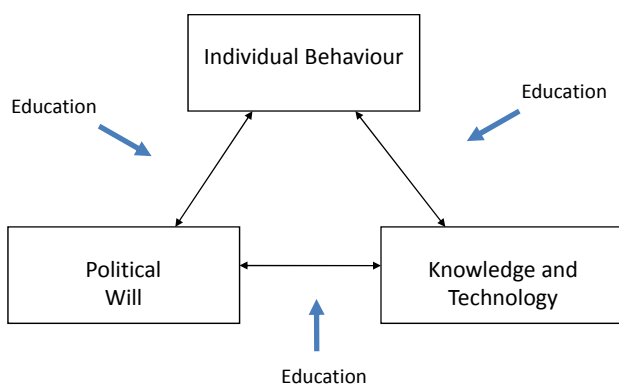


Source: Collins, A.E. (2009) *Disaster and Development*, Routledge p.27

## Influences on a risk governance cycle

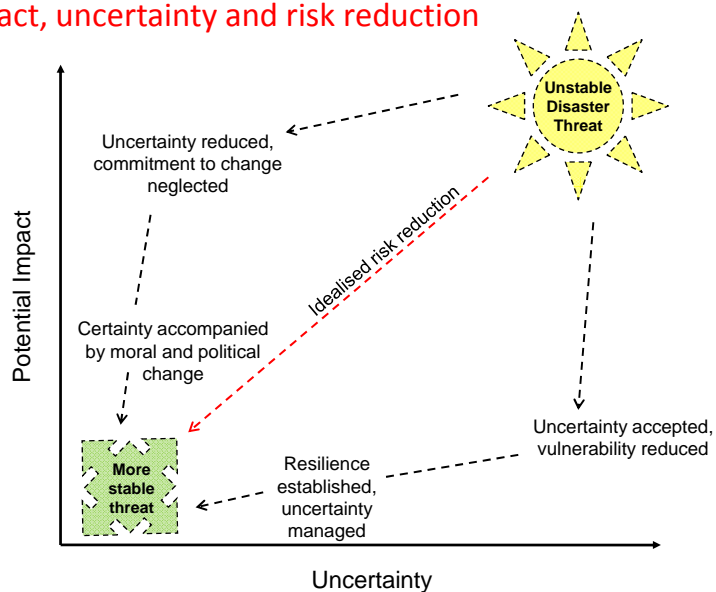


## Underlying influences on (successful) disaster reduction initiatives



Source: Collins, A.E. (2009) *Disaster and Development*, Routledge p.151

## The relationship between disaster impact, uncertainty and risk reduction



D &amp; D Implications and Applications

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## Interdisciplinary Knowledge Base

- Hard Science
- Soft Science
- Non-Science
- Art - Faith – Culture
- Politics



Disaster Risk Governance

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**D & D Approaches and Methods include those based on the following disaster reduction perspectives:**

- Hazards
- Vulnerability
- Multileveled
- Ecological
- Spatial and temporal
- Risk
- Perception
- From the bottom and from the top, from within and without
- ...



**Disasters Risk Governance is Cost Effective if it is:**

- Timely
- Transferable
- Adaptable
- A Sustainable Investment



## Disaster Risk Governance Essentials are therefore that;

- People are Empowered to Act (capable, equipped, and sanctioned)
- Responses to risk are relative to Age, Gender, Culture
- Risk avoidance is a Right
- It is localised and participatory
- It motivates enhanced personal responsibility



Disaster Risk Governance

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## Further Features of 'Good Disaster Risk Governance'

- Informed - by ongoing real or perceived threats of the governed
- Practitioner orientated – guided by a perpetual interpretation and review process
- Proactively engaged – including with hazards, vulnerability, and coping to facilitate resilience
- Lessons learnt - through evaluation before, during and after risk reduction activities
- Related to localised knowledge - made relevant through grounded research
- People centred - driven and motivated disaster assessment that is multidisciplinary, integrated and perpetually reassessed
- Invested – where there is the political will, institutional and personal commitment to disaster reduction and sustainable development!

Disaster Risk Governance

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The simplified view of how to put risk reduction into development and development into disaster risk reduction

- Risk = Probability of an Event x Magnitude of the event
- Risk =  $\frac{\text{Hazard (probability)} \times \text{Loss (expected)}}{\text{Preparedness (loss mitigation)}}$
- Risk =  $\frac{\text{Hazard} \times \text{Vulnerability}}{\text{Capacity}}$
- Disaster risk =  $\frac{\text{Unsustainable Development}}{\text{Sustainable Development}}$
- Development risk =  $\frac{\text{Disaster Risk}}{\text{Sustainable Development}}$

i.e. Disaster Risk Reduction = Sustainable Development

D & D Implications and Applications

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Recovery is about turning negative processes positive

Critical Findings for Application in D & D



## For Example: A Human Environmental Link

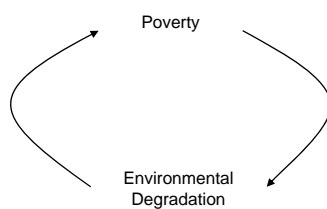
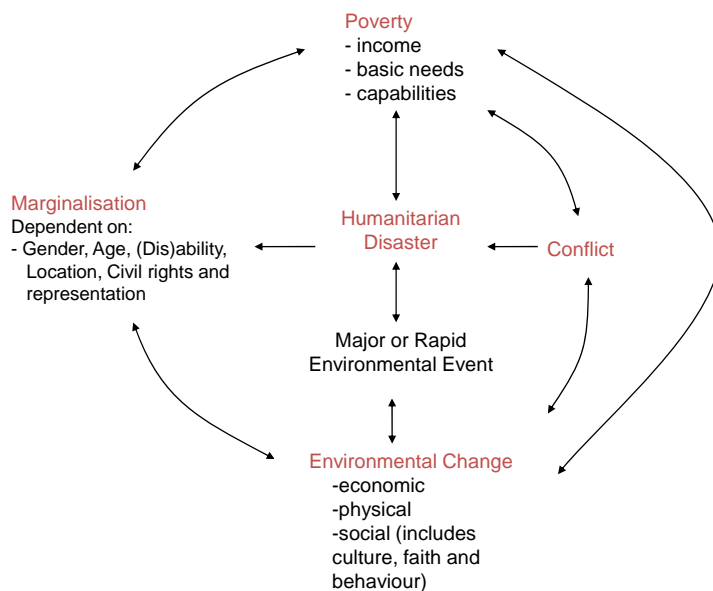
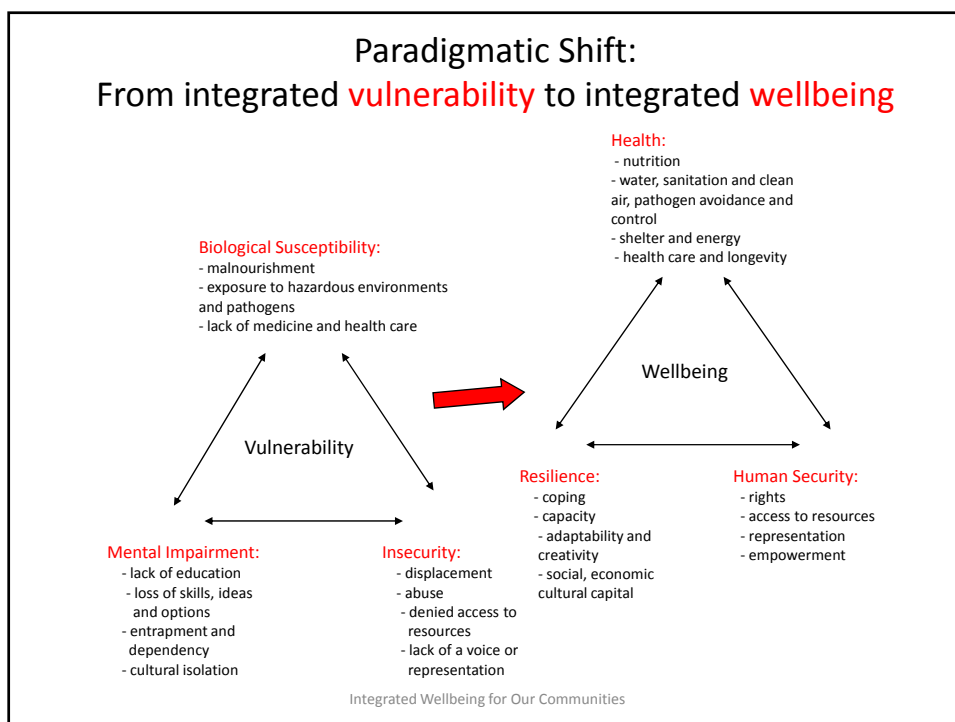
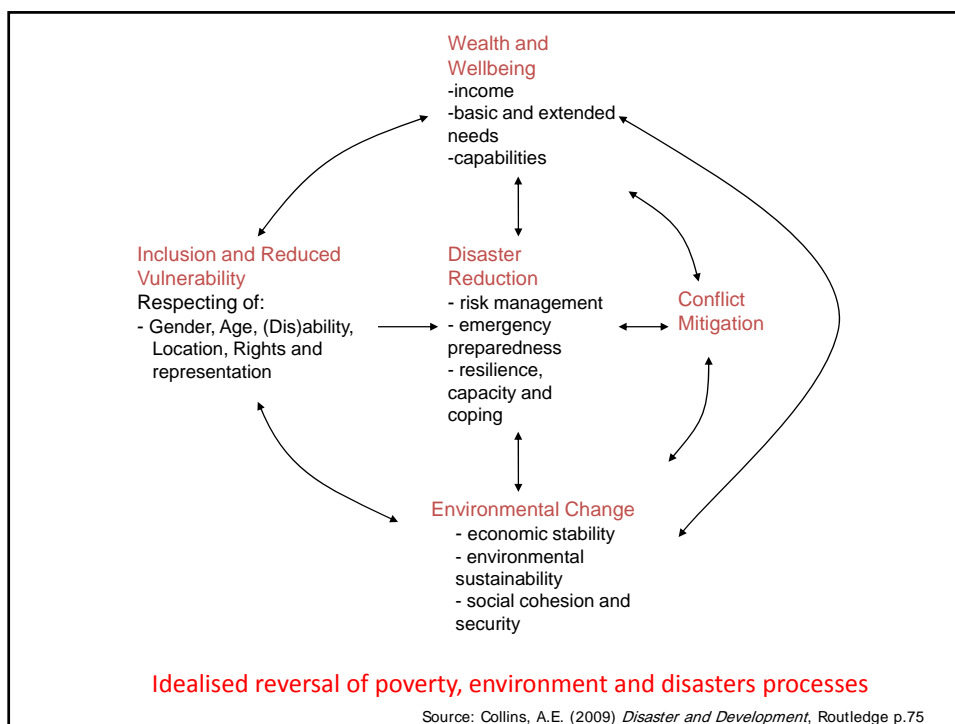


Figure: Generalised hypothesis on the link between poverty and environmental degradation



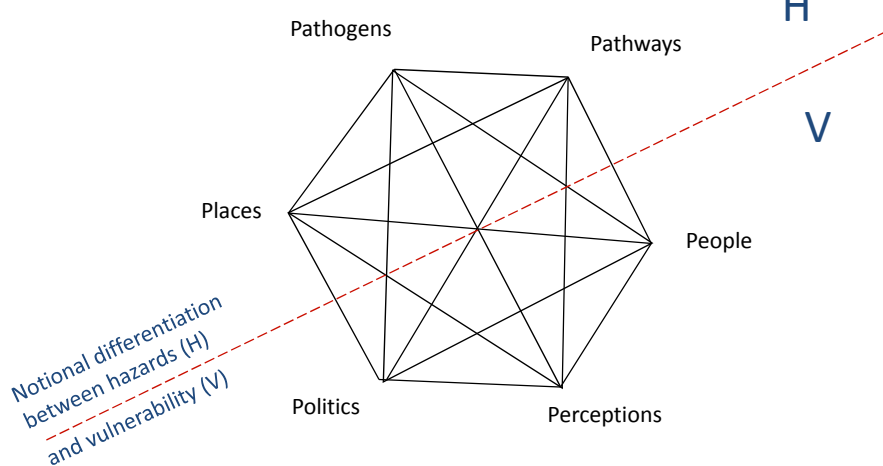
### An integrated poverty and environment view of humanitarian disasters

Source: Collins, A.E. (2009) *Disaster and Development*, Routledge p.73



## Example - Health Security and Risk Reduction

- Health, a complete state of physical, mental and social wellbeing = 'resilience'
- Improved health reduces disaster
- Self care as part of local health security
- From disease risk reduction to integrated health risk management



Example: Health Ecology Approach to Infectious Disease Risk Reduction, for Health Security at Global, Community and Individual Levels

Source: Collins, A.E. (2009) *Disaster and Development*, Routledge p.136

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### Some concluding points for the discussion: identifiable from decades of disasters research

- There are many ways of interpreting events that may be defined as disasters.
- No disaster is 'natural' in terms of the association between disasters and development.
- Disasters, disaster reporting, and disaster and development institutions have increased in recent decades.
- Disaster prevention and response alters the impact of disasters on development, and appropriate development can reduce disasters.

### Examples of Underlying Ongoing Questions

- In what way is it not inevitable that there are major disasters?
- What might be the possibility of achieving development targets, such as Millennium Development Goals (MDG), through disaster reduction?
- What are the best routes for the delivery of development and relief?
- In relation to an extreme disaster or development issue, what are the differences in applying needs, vulnerability, capacity, coping or resilience assessments?
- What new evaluation criteria might disaster risk reduction need to address?
- To what extent is learning from development informative of learning from disaster?

## Examples of underlying ongoing questions

- How can resilience be best enhanced at the community level?
- Is there evidence of the need for new forms of local risk and resilience governance, or similar, or are we really looking at small adjustments to existing societies using existing community routines?
- What is an appropriate balance of individually driven motivation to risk manage versus structurally motivated interventions.



## Further Examples of Ongoing Questions

- To what extent can disaster reduction be improved by people changing their behaviour or by a reformulation of institutional structures (closely linked to the previous question)?
- What applications are there for disaster and development approaches as part of climate change adaptation?
- What do you consider to be the meaning of disaster in terms of human development and security?
- How might good risk governance become a universal right?
- What gives you a sense of wellbeing, and how might you engage this in the interests of disaster reduction and sustainable development?

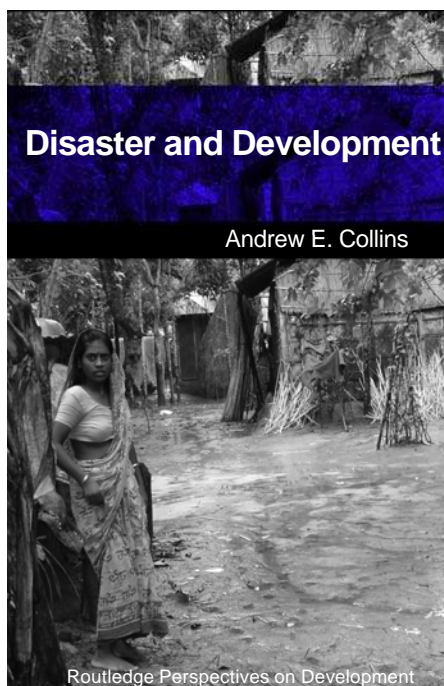
### Examples of Overall Disaster and Development Research Conclusions – ‘Getting Development out of Disaster’

- People are resilient to disasters by **interacting with and adapting to hazards, managing risks, demanding rights and securing livelihood niches.**
- The **application of supporting governance contexts can harness people’s capacity** to manage risks and threats, regenerate societies and enhance community resilience.
- Offset disaster risk with investment in local wellbeing.
- Knowledge alone puffs up, but charity or love edifies or builds up.

Resilience Through Local Governance

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Book (2009)



D & D Implications and Applications

Routledge Perspectives on Development