

Refining the Agenda? Disaster Risk Reduction in Times of Climate Change

***Key recommendations from two studies prepared
by UNU-EHS on behalf of DKKV***

PD. Dr.-Ing Joern Birkmann
Head of Section, UNU-EHS
Bonn, Germany

Dr. Denis Chang Seng
M.Sc. Dora-Catalina Suarez
Dipl.-Geogr. Dunja Krause
Research Associates, UNU-EHS
Bonn, Germany

Climate change and disasters

New dimension: “new” hazards and societal changes demand new responses from humanitarian and development actors



Creeping changes

- Sea-level rise
- Salinization
- Soil degradation, productivity decline
- ...

Increasing sudden-onset hazards

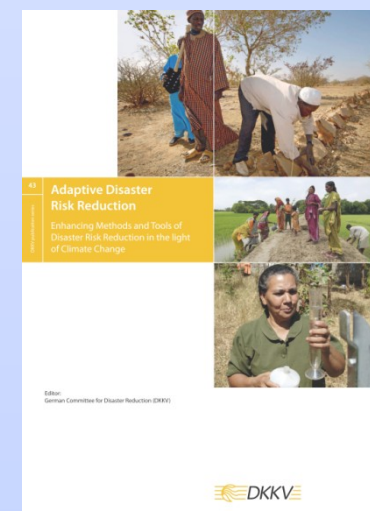
Intensity and magnitude of:

- Flooding
- Cyclones
- ...

Cascading effects, complex emergencies

- Global-local interaction
- Combination creeping and sudden-onset hazards
- Trends in societal development

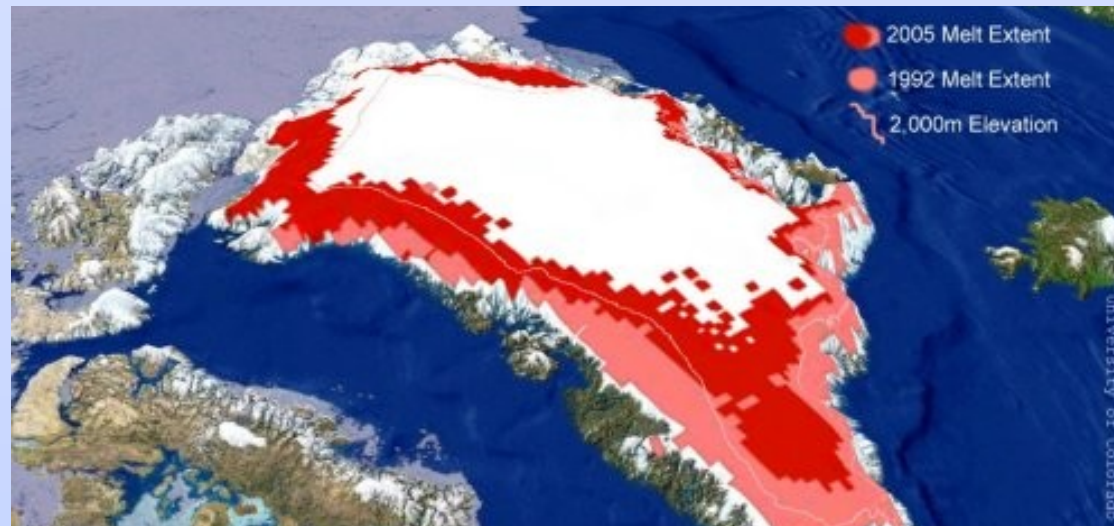
- DRR continuously gains importance
 - Anticipate disasters using scenario-based risk and vulnerability assessments
- Need for **adaptive** DRR and adjustments of international response
 - Increase planning horizon and work with multi-hazard approach
 - Rethink: time and spatial scales of DRR
 - CCA: strengthen and adjust existing tools rather than reinvent the wheel



Refining the agenda

Changing hazard context

- Consider climate and societal trends (e.g. sea-level rise and urbanization of coastal zones)
- Establish mechanisms to address small- and medium-sized crises
- Integrate climate change in contingency planning guidelines





Norms

- Strengthen focus on vulnerability and forward-looking, preparedness approach
- Make response more predictable
 - Standards of intervention
 - Funding and financial tracking
 - More strategic evaluation, e.g. establishment of DRR-CCA checklist
- Improve link between crises management, rehabilitation and climate resilient development
 - Potential to use standards, e.g. SPHERE, to coordinate action of climate change and development stakeholders?
 - Incorporate DRR and CCA in bilateral agreements

Humanitarian aid



UNITED NATIONS
UNIVERSITY

UNU-EHS

Institute for Environment
and Human Security



UNU-EHS

Structures and information needs

- Adjust contingency planning (dynamic plans, timescale and magnitudes, shared resources)
- Foster volunteerism with regard to local level preparedness for smaller crises
- Climate risk assessment
- Scenario-based identification of future hotspots and potential logistical bottlenecks



DRR - problem identification



UNITED NATIONS
UNIVERSITY

UNU-EHS
Institute for Environment
and Human Security



- I. **Avoid duplication of conceptual and practical work**
- II. **Improving performance and financing of DRR activities**
- III. **Concrete actions for adaptation for climate change**
- IV. **Include CC and CCA actors into DRR strategies**

Analysis of tools - priorities



UNITED NATIONS
UNIVERSITY

UNU-EHS

Institute for Environment
and Human Security

Key thematic areas (based on HFA & Cardona et al. 2005)	Selected priority tools based on expert interviews
Identification and understanding of risk	Risk and vulnerability assessment
Reduction of underlying risk factors	Planning and social development
Disaster preparedness and emergency management	Early warning systems (EWS)
Institutional capacities and financial mechanisms	National policy and legal frameworks and financial mechanisms

Adapting DRR tools



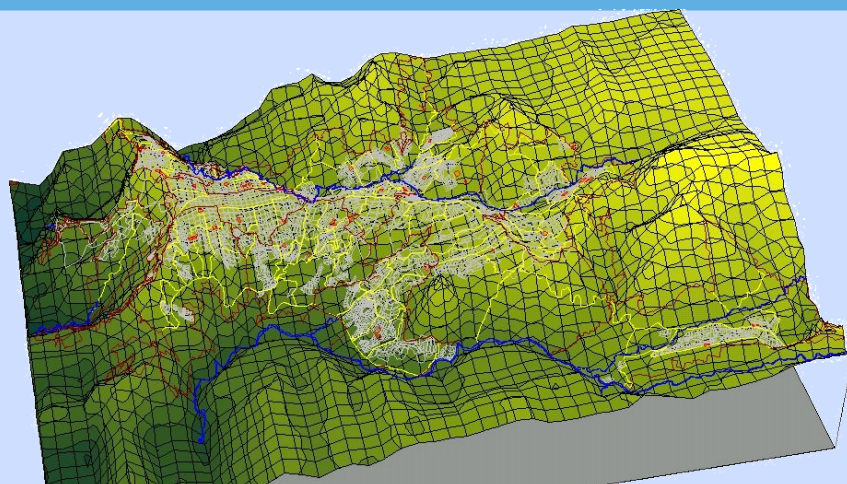
Deutsches Komitee Katastrophenvorsorge e.V.
German Committee for Disaster Reduction
within the International Strategy for Disaster Reduction (ISDR)



UNITED NATIONS
UNIVERSITY

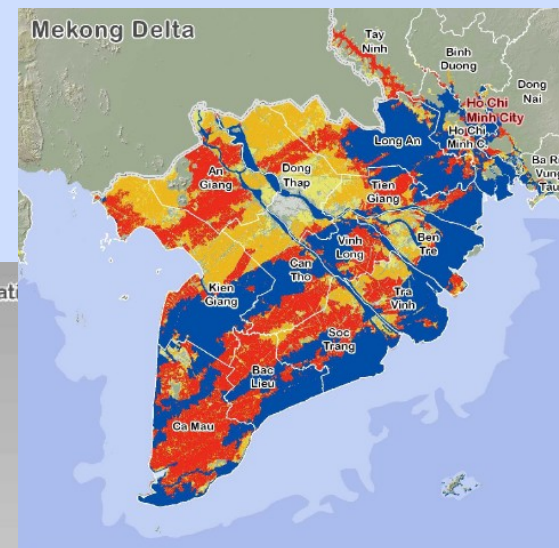
UNU-EHS

Institute for Environment
and Human Security



Risk and vulnerability Assessment

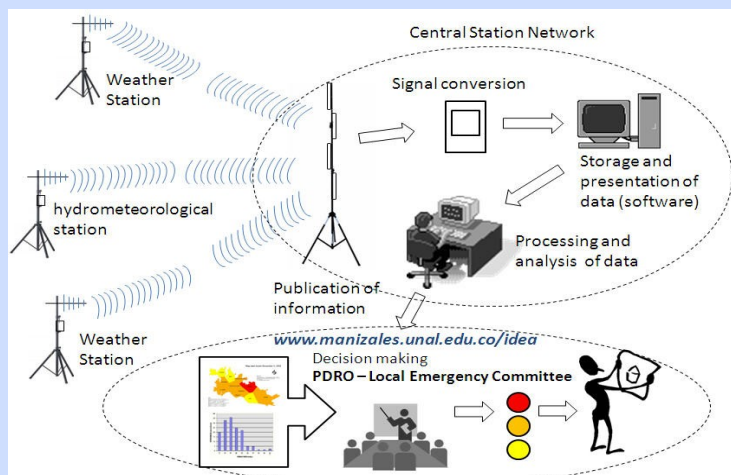
- Resolution of CC projections
- Accounting for different and dynamic exposure
- Scenarios of vulnerability
- Assessment of coping and adaptation capacities.
- Timescales
- Creeping changes



Risk reduction (planning)

- Areas exposed to CC effects
- Prospective risk management medium-term.
- Flexibility (iterative planning)
- Alternative livelihood strategies and resilience pathways (IPCC SREX)

Adapting DRR tools



Policy and legal frameworks

- Bilateral agreements
- Flexibility of funding and donations
- Proportional distribution of resources among prevention, awareness, mitigation, preparedness response.
- Project tracking /Sri Lanka

Early Warning Systems

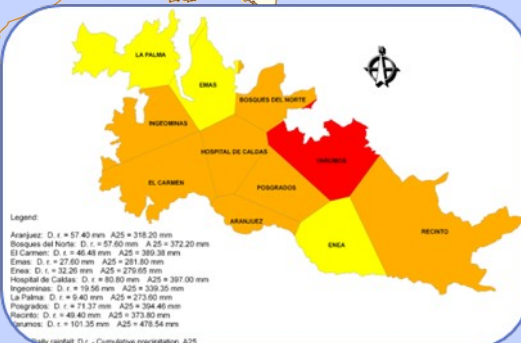
- Effects of CC scenarios on natural hazards; extreme events
- Evaluation local knowledge
- Uncertainties
- EW Governance
- Cascading risks
- EWS performance evaluation



Case study – Manizales, Colombia



Adaptation of DRR tools needs to account for local context



Disaster preparedness
Redefine warning
thresholds for rainfall

Reduce risk factors

- Glaciers retreat ;
- CC mitigation programme
- Basins studies

Risk identification

- Public information and education for CC awareness
- Adapt hydraulic design (periods of return, higher security factors)

Conclusion



UNITED NATIONS
UNIVERSITY

UNU-EHS

Institute for Environment
and Human Security

UNU-EHS

- CC can be seen as a new dimension for DRR and HA – e.g. uncertainties, scenario based approaches...
- Donors as well as implementing organizations (WHH; UN/OCHA, BfW) have to adjust DRR methods and tools (financial tracking, projects “transition period”)
- Foster strong link between DRR national platforms and platforms for CCA
- Use window of opportunity after disasters to foster positive change and contribute to climate resilience
- Think out of the box

Thank you!

Contact:

UNITED NATIONS UNIVERSITY
Institute for Environment
and Human Security (UNU-EHS)

Hermann-Ehlers-Str. 10
53113 Bonn, Germany
Phone: ++ 49 (0) 228 815-0208
Fax: ++ 49 (0) 228 815-0299
E-Mail: birkmann@ehs.unu.edu
www.ehs.unu.edu



UNITED NATIONS
UNIVERSITY

UNU-EHS
Institute for Environment
and Human Security

