Methods and tools for risk assessment of loss and damage – findings from the background report

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The Background Report*

Scope:

- Current knowledge on relevant methodologies and data requirements as well as lessons learned and gaps identified at different levels, in assessing the risk of loss and damage associated with the adverse effects of climate change

Approach:

- Clarify conceptual frameworks for loss and damage risk assessment.
- Provide an initial overview of 18 different approaches.
- Conduct a closer review of 6 approaches.

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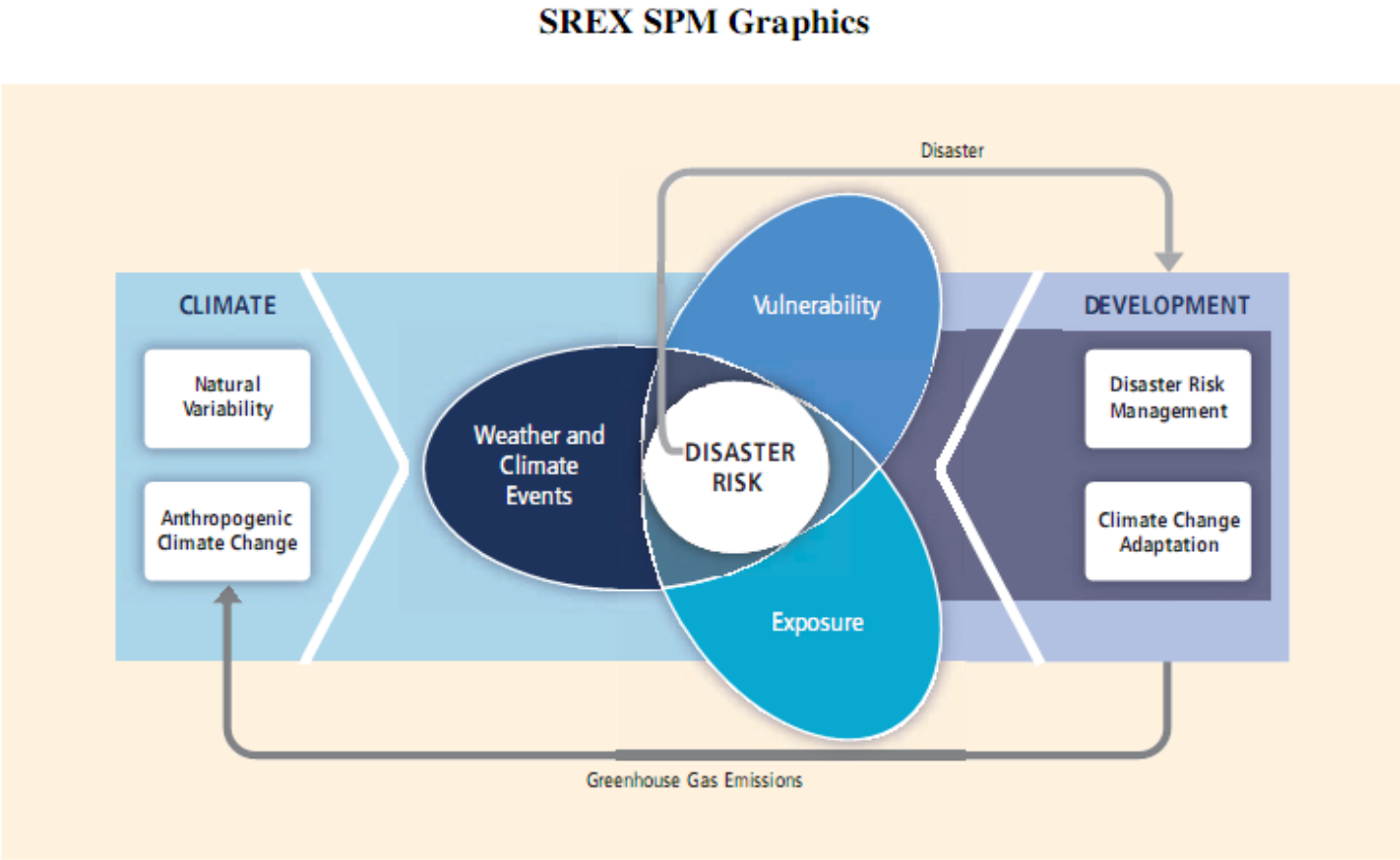
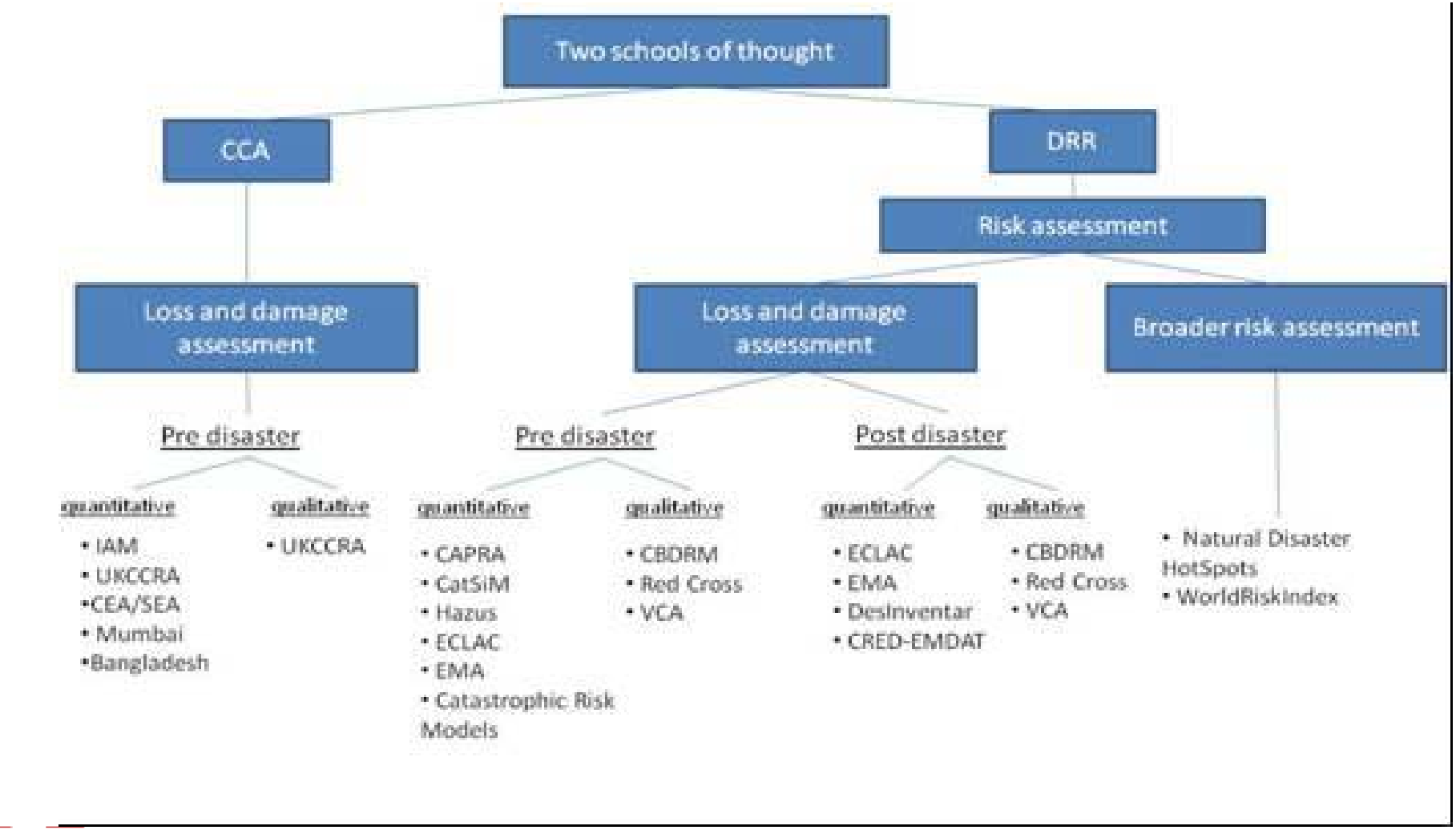
Framing: different concepts of hazard, exposure & vulnerability



Systematization of climate change related events, vulnerability, exposure, risk and development (IPCC SREX 2012)

Centre for Climate Change Economics and Policy

Loss and damage assessment: Overview of different approaches



Review of 6 approaches

- **CatastropheRisk Modelling, sepcifically IIASA CATastrophe SIMulation (CATSIM)**
- **Comprehensive Approach for Probabilistic Risk Assessment (CAPRA)**
- **Integrated assessment models**
- **World Risk Index**
- **UK Climate Change Risk Assessment**
- **Mumbai flood risk assessment case study**

» This is **not** about 'picking winners'; no comprehensive approach for loss and damage exists, but new tools are emerging, combining knowledge and technical skill from DRR, cat modeling and CCA

Findings I

- Methods and approaches are complex and require specialized technical skills.
- Availability and access to underlying data is important for all the methods and tools reviewed, with key requirements depending on scale:
  - Local level: hazard information, the challenge of downscaling
  - National level: exposure and vulnerability data
  - Global level: the lack of underlying regional and national assessments of vulnerability and exposure

Findings II

- Methods can meet some of the needs of adaptation planning - the choice of tools must be matched to the intended application.
- A full quantification of loss and damage may not be needed in all decision-making context -
- and it may not be possible. Some patterns of risk of loss and damage cannot sufficiently be expressed in monetary terms (e.g. loss of cultural heritage, loss of trust, loss of ecosystems).

Challenges that need to be addressed

- Capturing the scope and extent of **direct and indirect losses** and **growing interconnectedness** of impacts (such as cascading effects);
- Further **clarification** of the **strengths, weaknesses and limitations** of the available methods and tools, particularly in the context of uncertainty;
- Enhancing methods and tools for assessing the risks from **slow onset changes;**
- Improving the linkages and synergies between **qualitative and quantitative** assessment approaches at various scales, possibly through step-based approach;
- **Enhancing enabling environments** in developing countries (e.g. technical capacity, skills, fiscal tools, etc.).

Thank you for your attention.

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