



Vulnerability-Based Adaptation

Input to Panel discussion

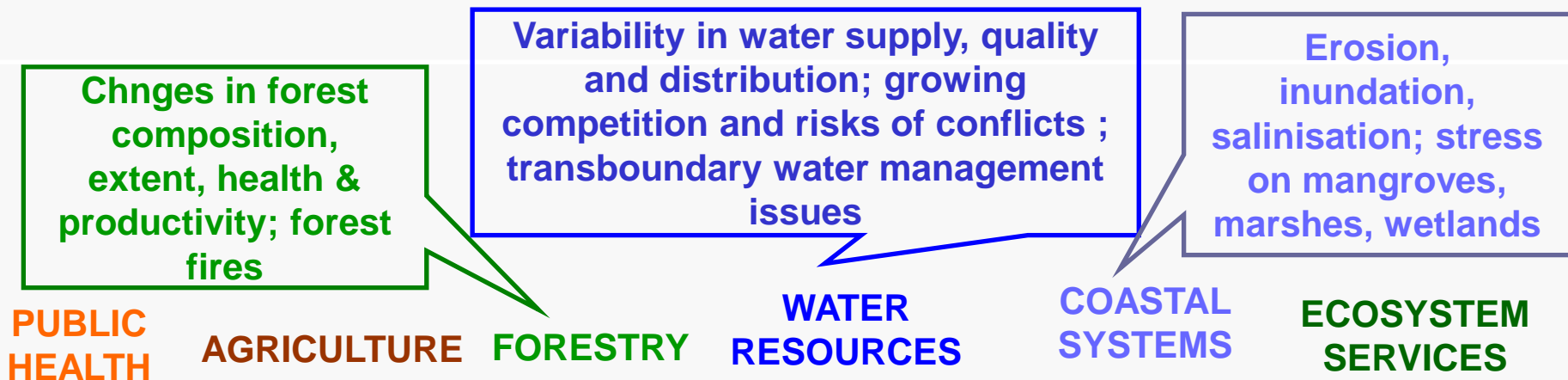
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Parallel Session II / Theme 2

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Gernot Laganda, UNDP**

1. Climate Change Adaptation is a vulnerability reduction strategy



Increasing incidents of infectious, water-borne and vector-borne diseases, heat stress & mortality, additional public health costs

Less predictability in crop yield, changing irrigation demand, growing risk of pest infestations

Loss of habitat, species and protective ecosystems; migratory shifts

An example of ‘vulnerability language’ from the 2007 IPCC report

Table 10.11. *Vulnerability of key sectors to the impacts of climate change by sub-regions in Asia.*

Sub-regions	Food and fibre	Biodiversity	Water resource	Coastal ecosystem	Human health	Settlements	Land degradation
North Asia	+1 / H	-2 / M	+1 / M	-1 / M	-1 / M	-1 / M	-1 / M
Central Asia and West Asia	-2 / H	-1 / M	-2 / VH	-1 / L	-2 / M	-1 / M	-2 / H
Tibetan Plateau	+1 / L	-2 / M	-1 / M	Not applicable	No information	No information	-1 / L
East Asia	-2 / VH	-2 / H	-2 / H	-2 / H	-1 / H	-1 / H	-2 / H
South Asia	-2 / H	-2 / H	-2 / H	-2 / H	-2 / M	-1 / M	-2 / H
South-East Asia	-2 / H	-2 / H	-1 / H	-2 / H	-2 / H	-1 / M	-2 / H

Vulnerability:

- 2 – Highly vulnerable
- 1 – Moderately vulnerable
- 0 – Slightly or not vulnerable
- +1 – Moderately resilient
- +2 – Most resilient

Level of confidence:

- VH- Very high
- H - High
- M - Medium
- L - Low
- VL - Very low

Source: IPCC 2007 / WGII

Vulnerability:



Vulnerability is a condition which determines the likelihood and scale of damage from the impact of a particular hazard.

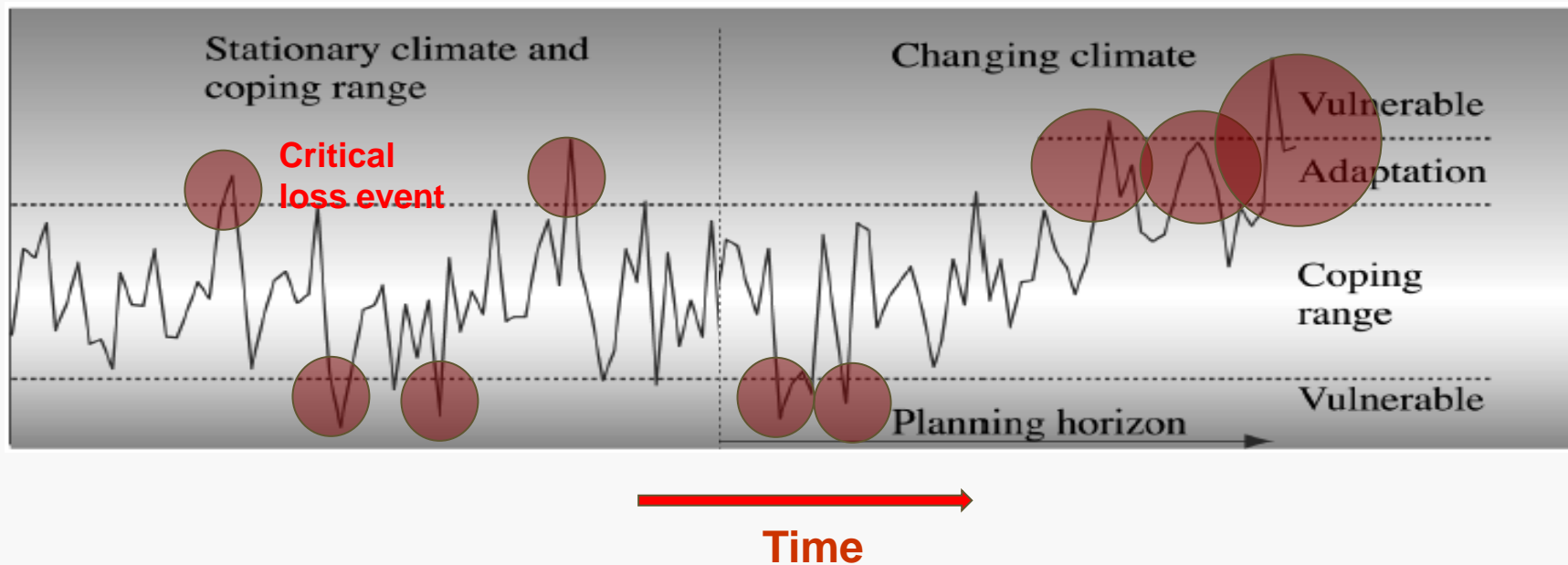
(= the degree of expected damage from a hazard)

Climate Change Adaptation:

“Initiatives & measures to reduce vulnerability of natural & human systems against actual or expected climate change effects” (UNFCCC, 2007)

How do people's vulnerabilities evolve in a changing climate?

Climatic variations (e.g. rainfall)



2. Vulnerability is socially constructed

What determines vulnerability to climate change?



1. Exposure to climatic hazards



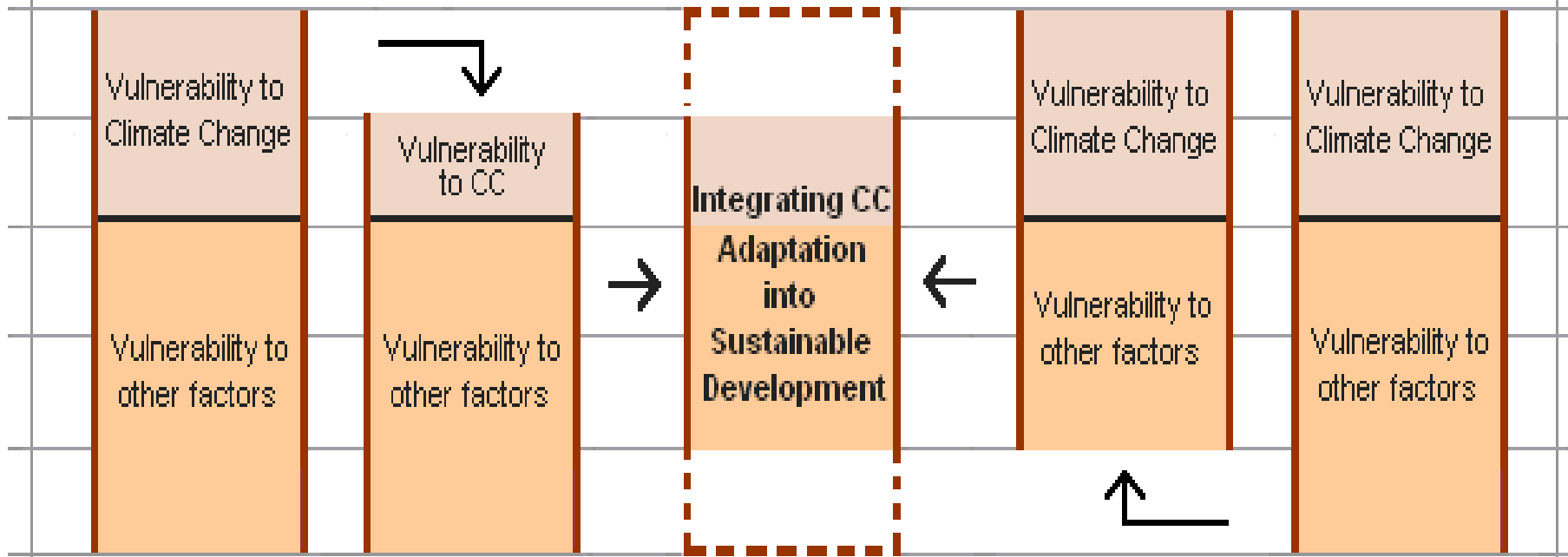
Affected by climate- as well as non-climate related drivers!



2. Sensitivity to climatic hazards

PATH A

Reduce Vulnerability to Climate Change



Reduce Vulnerability to Non-Climate Change Factors



PATH B

Source: FAO (Baas et.al., 2010)

Social Capital:

- Networks and connections (patronage, kinship, neighbourhoods)
- Relations of trust and mutual support
- Formal and informal groups
- Common rules and sanctions
- Collective representation
- Mechanisms for participation in decision-making
- Leadership

Human Capital:

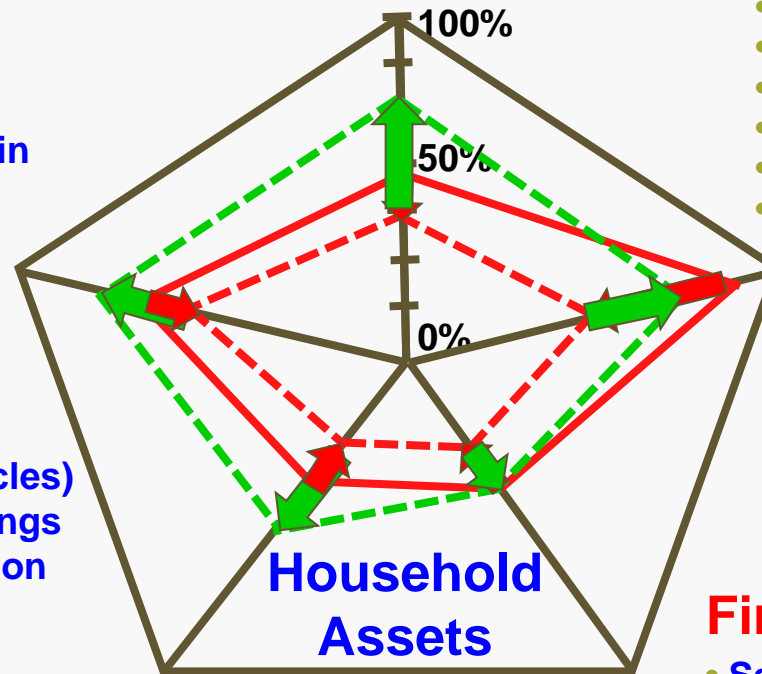
- Health
- Nutrition
- Education
- Knowledge and skills
- Capacity to work and adapt

Natural Capital:

- Land and produce
- Water & aquatic resources
- Trees and forest products
- Wildlife
- Wild foods & fibres
- Biodiversity
- Environmental services

Physical Capital:

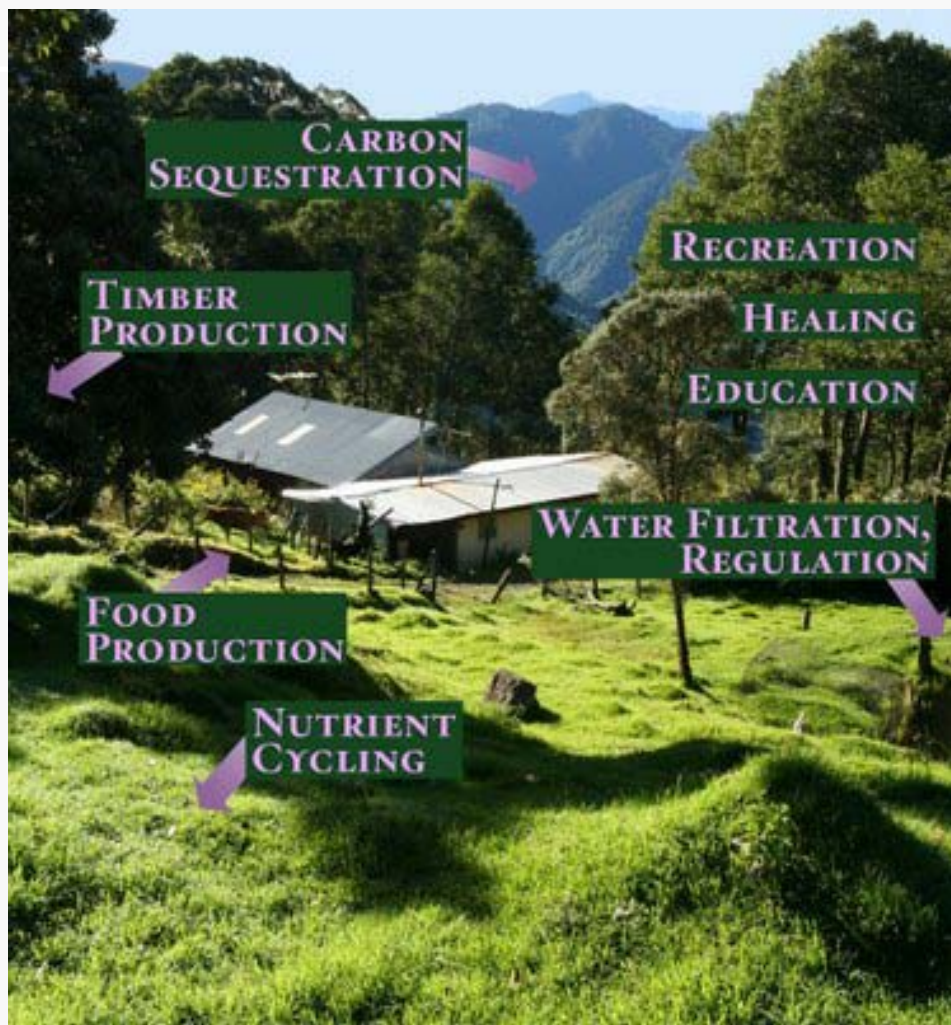
- Infrastructure
 - transport (roads, vehicles)
 - secure shelter & buildings
 - water supply & sanitation
 - energy
 - communications
- Tools and technology
 - tools and equipment for production
 - seed, fertiliser, pesticides
 - traditional technology



Financial Capital:

- Savings
- Credit/debt (formal, informal)
- Remittances
- Pensions
- Wages

3. Ecosystem-Based Adaptation is a natural, integrated solution to vulnerability reduction



- Food & water quality/security
- Disaster mitigation
- Carbon sequestration
- Public health & wellbeing
- Economic revenues (direct / indirect)