Mapping Vulnerability and Resilience for Ecosystem Based Approaches to Adaptation

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UN System Side Event.
UNFCCC COP 19
Warsaw, 16 November, 2013
IPCC AR5. No Mountains. Africa is whiter than the Ocean!
IPCC AR5 - Regional is interesting. No ecozones (eg mountains).
Mountain ecosystem goods and services

- Sense of place, spiritual value, inspiration
- Recreation, health services, mineral water
- Diversity of habitats, unique flora and fauna
- Genetic resources, wild fruit-nut forests
- Traditional knowledge and products
- Weather formation, climate regulation
- Indicators of global changes, decomposition, weathering
- Water storage
- Hazard regulation, carbon storage, soil formation, watershed protection
- Pollination, purification
- Mineral resources
- Natural pastures
- Food products, crops
- Hydropower potential
- Water supply
• Mountain regions have the highest regional natural variability in weather in climate in the world.

• Mountain ecosystems (and communities) are thus inherently among the most highly resilient to climatic stress.

• At the same time, because global warming can literally push climatic zones off the top of mountains, they can be among the most vulnerable (locally, conditions become outside the envelope).

• Despite this apparent contradiction. Mountains provide an excellent testbed for ecosystem (and community) based adaptation approaches.
Mountains and SDGs

Joint initiative in the framework of the Mountain Partnership towards mainstreaming mountains into the SDGs, following UNEP’s integrative approach.

Objective: Promote Sustainable Mountain Development in the context of SDG development and implementation.

Outputs: Policy brief development
- Climate Change and DRR – 6-10 January 2014
- Forests and Biodiversity – 3-7 February 2014
UNEP in the Mountains

• Partnership of **UNEP, IUCN & UNDP** under broader EBA flagship programme, current focus on Mountains in Peru, Nepal & Uganda;

• Partnership with UNESCO on Mountain matters globally;

• Leading the development of the first Africa Mountains Atlas due 2014.

• Andes component of REGATTA project
“Climate change action in developing countries with fragile mountainous ecosystems from a regional perspective”

2014-2017, Total: 1.75 Mio EUR financed by Austria

- Support to mountainous developing countries to integrate climate change adaptation into development policies/plans/strategies
  - Understand vulnerabilities and impacts
    - trigger policy action

Main activities:

- Understand and map vulnerabilities and impacts
- Establish regional cooperation platforms
- Develop climate change outlooks (participatory assessments)
Climate Change Vulnerability Methodological Framework
UNEP REGATTA Initiative. Andes Case Studies.
## Municipalities most Exposed to Climate Change and Adaptive Capacity Indicators in Ecuador

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Biophysical and Social Sensitivity in Colombia

Income

Subsistence
EXAMPLE
Ecosystem Based Adaptation in Mountain Ecosystems
Nepal, Peru & Uganda

Supported by:

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

based on a decision of the Parliament of the Federal Republic of Germany
Geographic distribution of EBA studies

Source: Munroe et al. 2011
Synergies of EbA with other approaches

• Overlaps with disaster risk management, community based natural resource management, REDD+
• Mix of human needs & environmental sustainability
• Strong local-level synergies

Adapted from Midgley et al. 2012
Mount Elgon
Ecosystem Based Adaptation in Mountain Ecosystems Programme

- Partnership of **UNEP, IUCN & UNDP** under broader EBA flagship programme
- **BMU** provided 10 million Euro for Mountain Ecosystems Programme (+1.5 million 2014!)
- Steered by **Global Steering Committee**
- Dec 2010 – Dec 2015
- Pilot phase: **Nepal, Peru & Uganda**.
- Broader learning for other mountain areas and countries to be added in next phase
Take Home Messages

• Ecosystem based approaches can be both build resilience to climate change and deliver multiple benefits.
• Don’t adapt to Global averages Focus on local, regional and hydrological impacts and Societal Variables.
• Climate adaptation is not separable from sustainable mountain development. Integrate and mainstream CCA policies.
Thank You....