

Ecosystem based Adaptation to Climate Change

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www.unep.org/climatechange/adaptation/



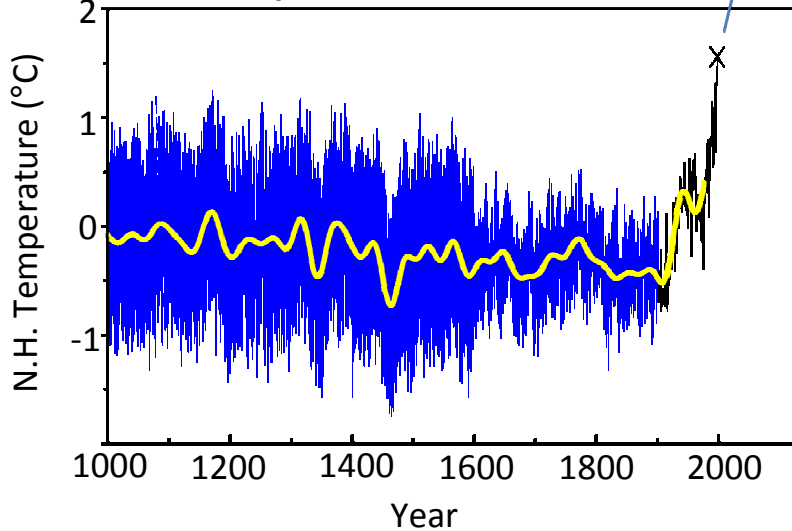
Adapting to Climate Change in
Mountain Regions
UNFCCC COP17
Durban, 2 December, 2012



Outline

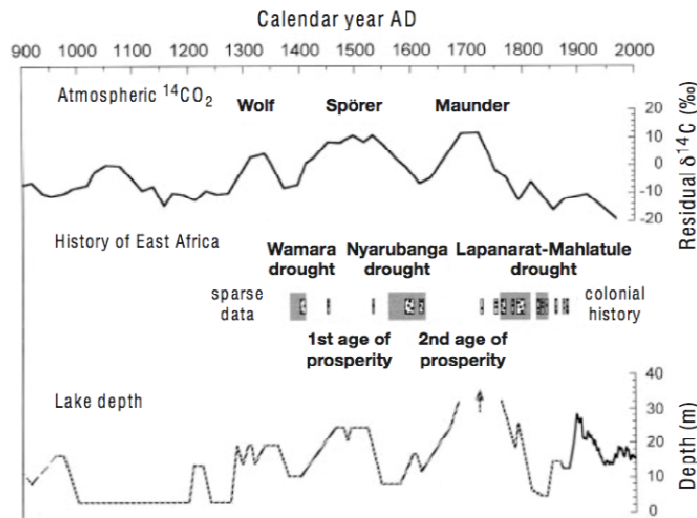
- Some General Thoughts on EbA
 - Global averages (greenhouse gases, temperature) are outside the envelope of natural variability, but variables we adapt to (local sealevel, drought, flood) are invariably not.
 - Breaking the three little pigs bricks and mortar paradigm
 - What's special about mountains?
- UNEP's Adaptation Strategy
- Two examples of mountain projects in UNEP's EbA program

Global Temperature is outside the envelope



Mann et al. (1999) GRL

... but regional hydrological variability is not



Verschuren, *Nature*, 2000

The three little pigs



Reducing their vulnerability
with bricks and mortar

Adaptation is a process, including understanding climate variability and societal vulnerabilities, evaluating costs and benefits, building capacity and learning from pilot actions.

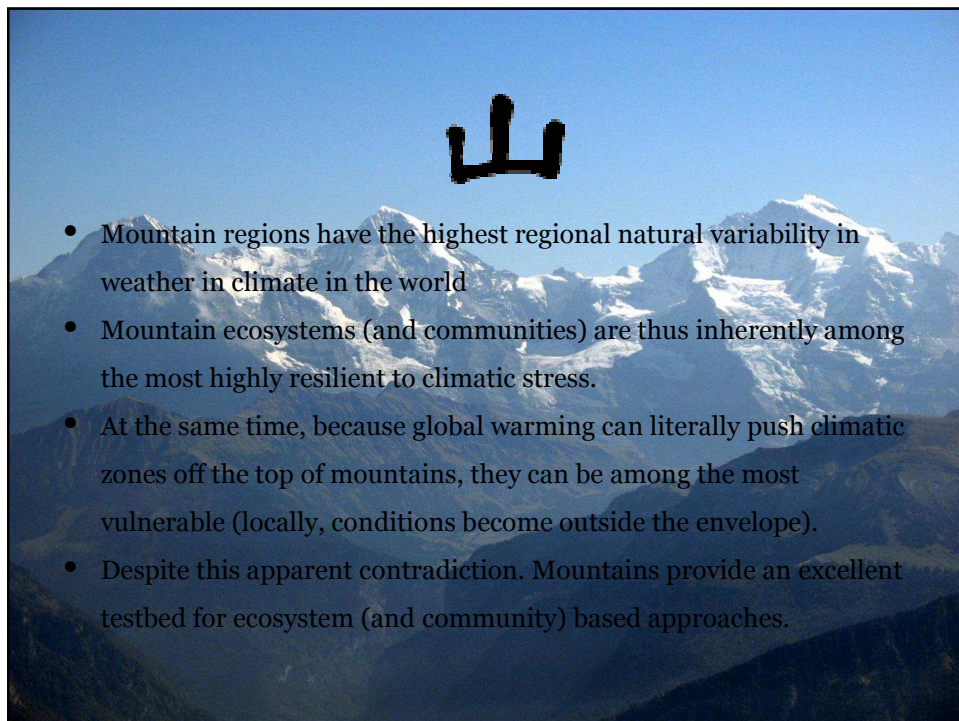
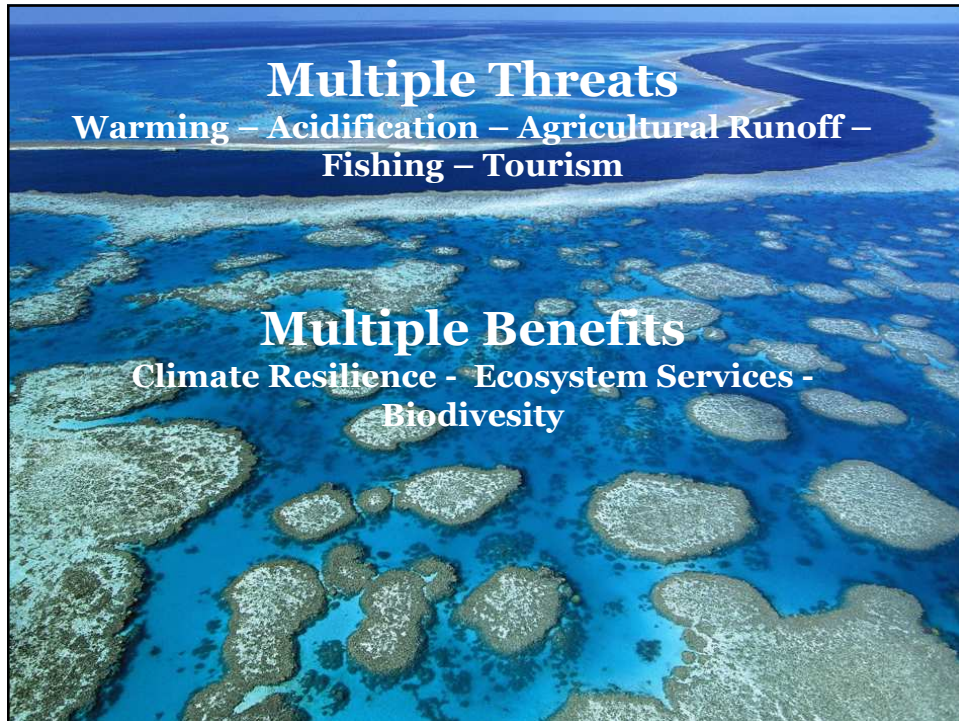
Ecosystem-Based Adaptation is the use of the natural climate resilience of ecosystems as part of an overall adaptation strategy to help people and communities minimize the negative impacts and benefit from the positive effects of climate variability and change.


Some Examples:

Water Security: Building Dams and Managing Forests


Coastal Defenses: Building Seawalls and Managing Mangroves and Coral Reefs








UNEP Climate Change
Adaptation Strategy



1. Demonstrate **Ecosystem Based Adaptation**
- where does it work best and when it is cost effective
2. Support development of a **Global Adaptation Network**
Further information from Anna Kontorov
3. Facilitate **National Access to Adaptation Funding**
Further information from Merlyn VanVoore, Ermira Fida



EBA Operational Guidance and Effectiveness Project

- Current project to support UNEP's ecosystems and climate change programmes
- Developing a Decision Support Framework (and associated tool) which aims to assist EBA practitioners in the:
 - Selection
 - Design; and
 - Implementation of EBA activities.
- Explicitly recognizes decision context (the 'it depends' factor) for M&E protocols to support EBA effectiveness

Further Information from Rob Kay



Karakorum Trust Project in Mountain Ecosystems

Northern Pakistan, 2009-2012, US \$1.5M



ICIMOD



2. Karakorum Trust Project

Project Objectives

- Improve the quality of life of local communities and the conservation of environment, architectural and cultural heritage;
- Enhance capacity of local communities and institutions to adapt to climate change in the Central Karakorum



Project Outcomes

- Improvement of the institutional Karakorum National Park ecosystem management mechanism
- Adaptation to climate change and sustainable ecosystem management options
- Shared opportunities and modalities of the project with other Himalaya region countries



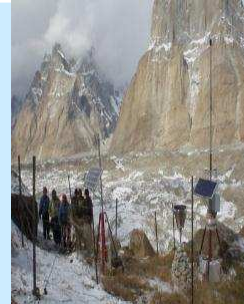
Outcome 2: Adaptation to climate change and sustainable ecosystem management options

Activities

- Climate change impact assessment and adaption needs reported (December 2011)
- **Monitoring stations for environment, climatic and ecological data installed and operated (2011-2012)**
- Good practices on sustainable waste management, eco-tourism, organic farming and renewable energy, etc demonstrated (2011-2012)
- Joint pilot projects to demonstrate successful adaptation options (cancelled due to budget constraints)



Observations. We need to know what we are adapting to. They must be integrated across climate, ecosystems, and social elements. They must be sustainable - locally 'owned' and deliver local benefits



Ecosystem Based Adaptation in Mountain Ecosystems

Nepal, Peru & Uganda, 2011-2014
10 Million Euros

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



Project objectives

- Strengthen the capacities of Nepal, Peru and Uganda to benefit from mountain ecosystem services including enhanced resilience to climate change using ecosystem based adaptation options;
- Reduce the vulnerability of communities dependent on mountain ecosystems.



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Project Components

- Development and application of methodologies and tools for mountain ecosystems;
- Implementation of EBA pilots at the ecosystem level to demonstrate both effectiveness and the economic case
- Formulation of relevant national policies



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Take Home Messages

- **Ecosystem based approaches**, can be both effective for adaptation and deliver multiple benefits.
- **Don't adapt to Global averages:**
Focus on local, regional and hydrological impacts
- **Climate adaptation is not separable from environmental protection or economic development.**
Integrate and mainstream CCA policies.



Thank You....

