CGIAR | Research Program on Water, Land and Ecosystems

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9 years of research for development to improve water & food security of the rural poor

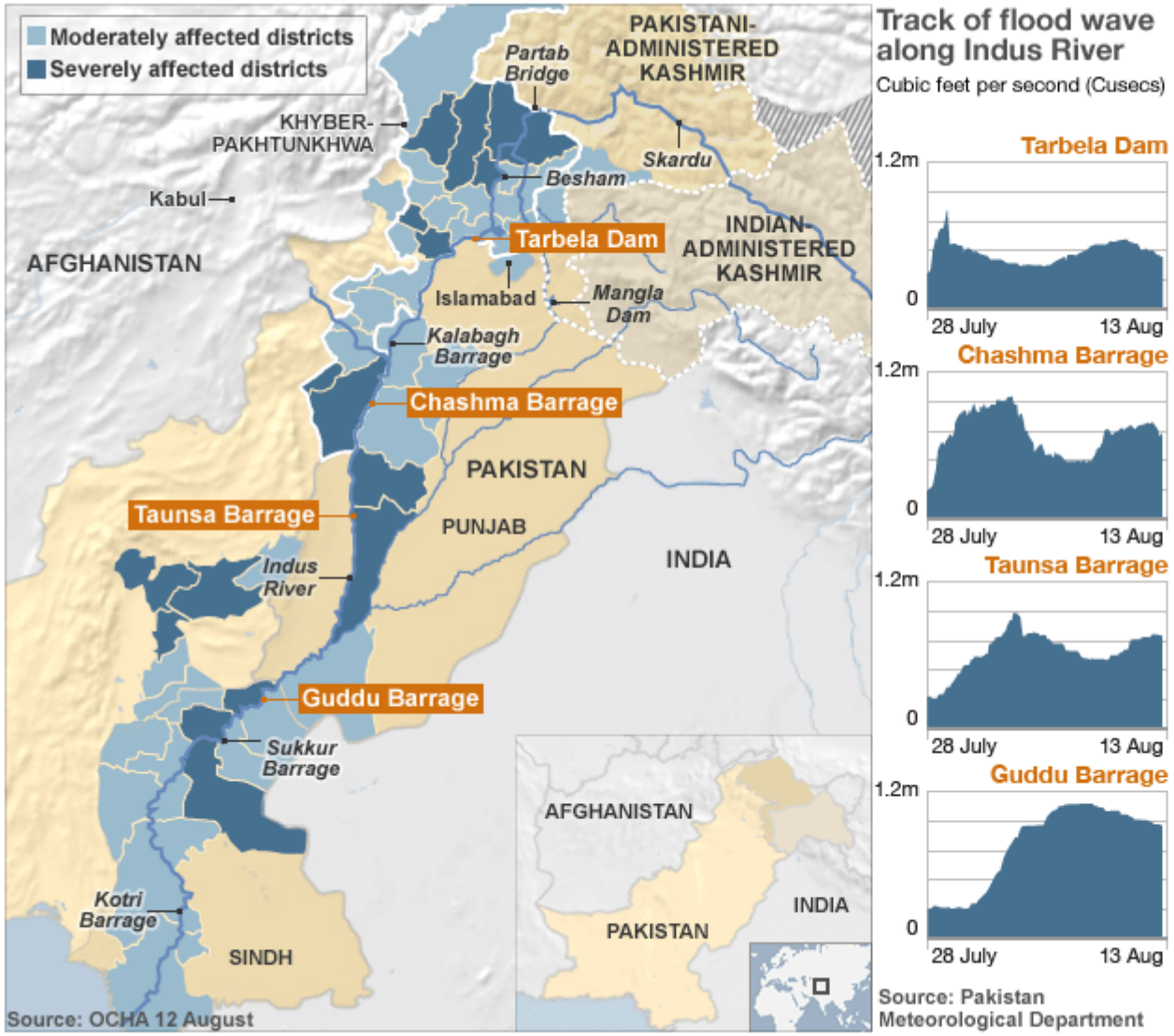
Alain Vidal, Director

CGIAR Challenge Program on Water and Food

BBC Mobile

NEWS SOUTH ASIA

Indus Floods



Ganges: 500 million facing disaster

Page last updated at 02:39 GMT, Thursday, 13 August 2009 03:39 UK

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India's water use 'unsustainable'

By Richard Black
Environment correspondent, BBC News website

Much of the water used in paddy fields is pumped from underground

Parts of India are on track for severe water shortages, according to results from Nasa's gravity satellites.

The Grace mission discovered that in the country's north-west - including Delhi - the water table is falling by about 4cm (1.6 inches) per year.

Writing in the journal Nature, they say rainfall has not changed, and water use is too high, mainly for farming.

The finding is published two days after an Indian government report

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TOP SCIENCE & ENVIRONMENT STORIES

GHANA: Hydro-power crisis getting worse

Photo: Alex Kodina/IRIN
Akosombo Dam

ACCRA , 3 August 2007 (IRIN) - Ghana is undergoing its worst power crisis since 1998. People go without electricity for at least 12 hours every other day, and, with insufficient rain to keep its hydropower stations functioning, the situation is likely to deteriorate, affecting individual livelihoods and the economy as a whole.

The water level of Lake Volta, the largest man-made lake in West Africa, which normally supplies 60 percent of Ghana's energy needs, is at an all-time low, 234.96 ft below the critical minimum.

The lack of water in the lake has created a 300 MW power shortfall.

Weather forecasters predict drought in all three northern regions of Ghana where the sources of the rivers that feed Lake Volta are located.

"The masses are suffering." John Atipoe, an electrician and father of four, told IRIN.

"The frequent power cuts destroyed my refrigeration system and I had no money to repair it," said 51-year old Juliet Adjoa Serwah who used to make money selling food and drinks. "Now I have to resort to basket weaving to look after my three kids."

Economic warning

According to Ghanaian economist Nii Moi Thompson, "It's almost certain now that low productivity due to the crisis will block the attainment of the 6.5 percent GDP [Gross National Product] growth

Food Crisis in the Sahel

by Isobel Coleman
July 4, 2012

About This Blog

On Democracy in Development, Coleman maps the connections between political reform, economic growth, and U.S. policy in the developing world. Focusing on the Middle East and South Asia, she offers insights on both breaking events and enduring debates, and highlights innovative solutions to challenges in such areas as democratization, poverty and growth, health, education, and women's empowerment.

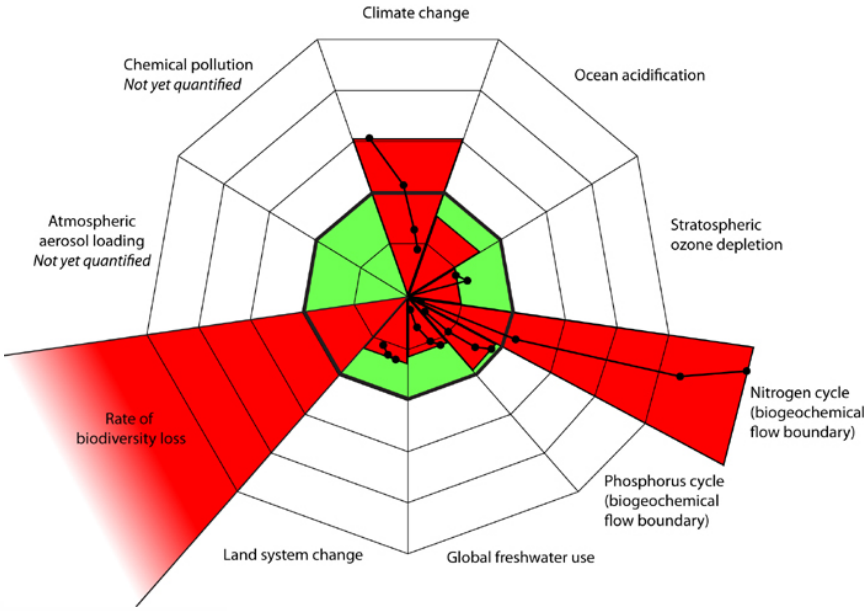
About the Author

Isobel Coleman
Senior Fellow for U.S. Foreign Policy, Director of the Civil Society, Markets, and Democracy Initiative

Civil Society, Markets, and Democracy Initiative

Overcoming the « perfect storm » of demand, scarcity and change

- 9+ billion people
- More food and water crises
- Global systems approaching ‘tipping points’
- Uncertainties of climate change…



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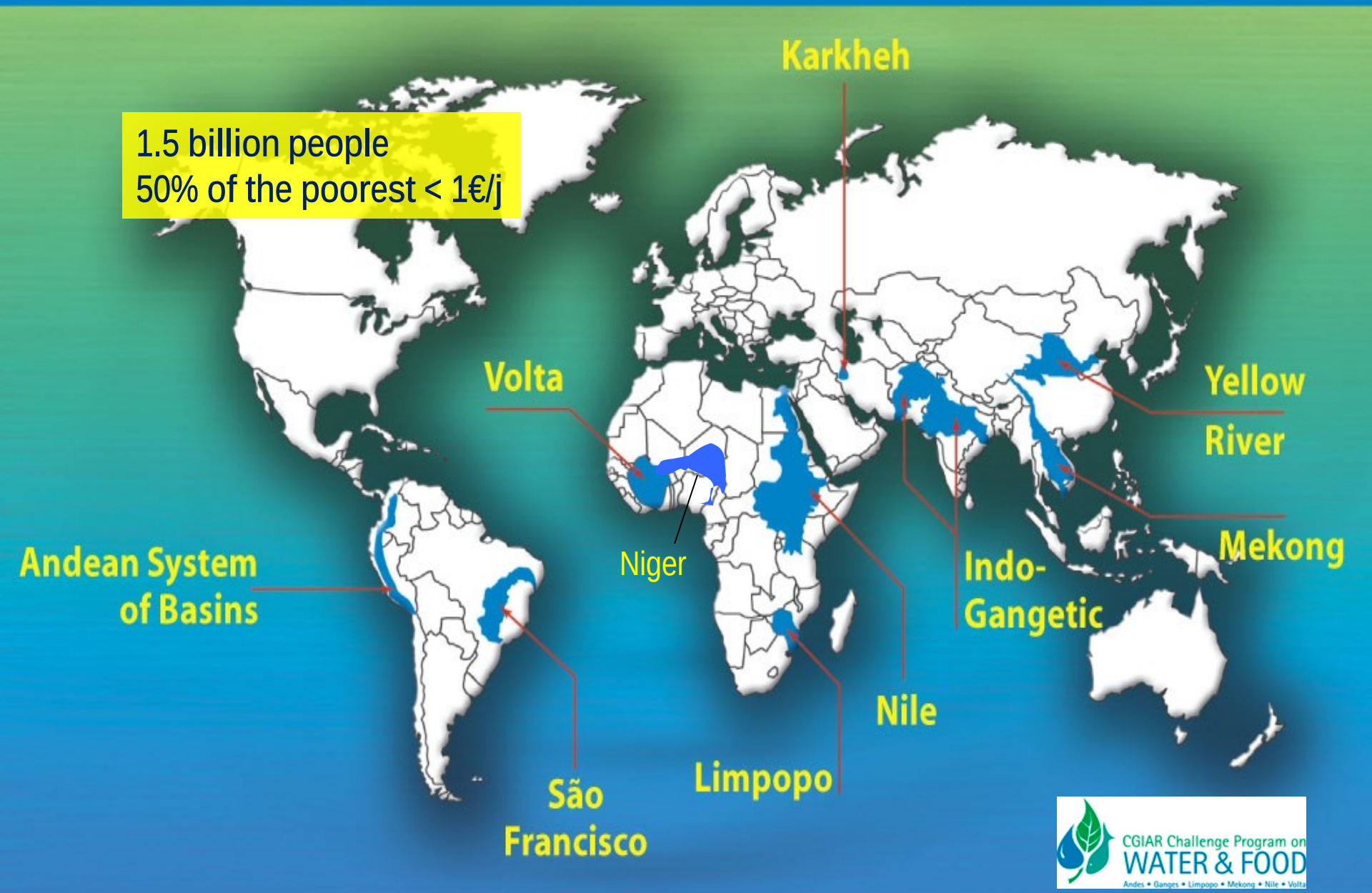
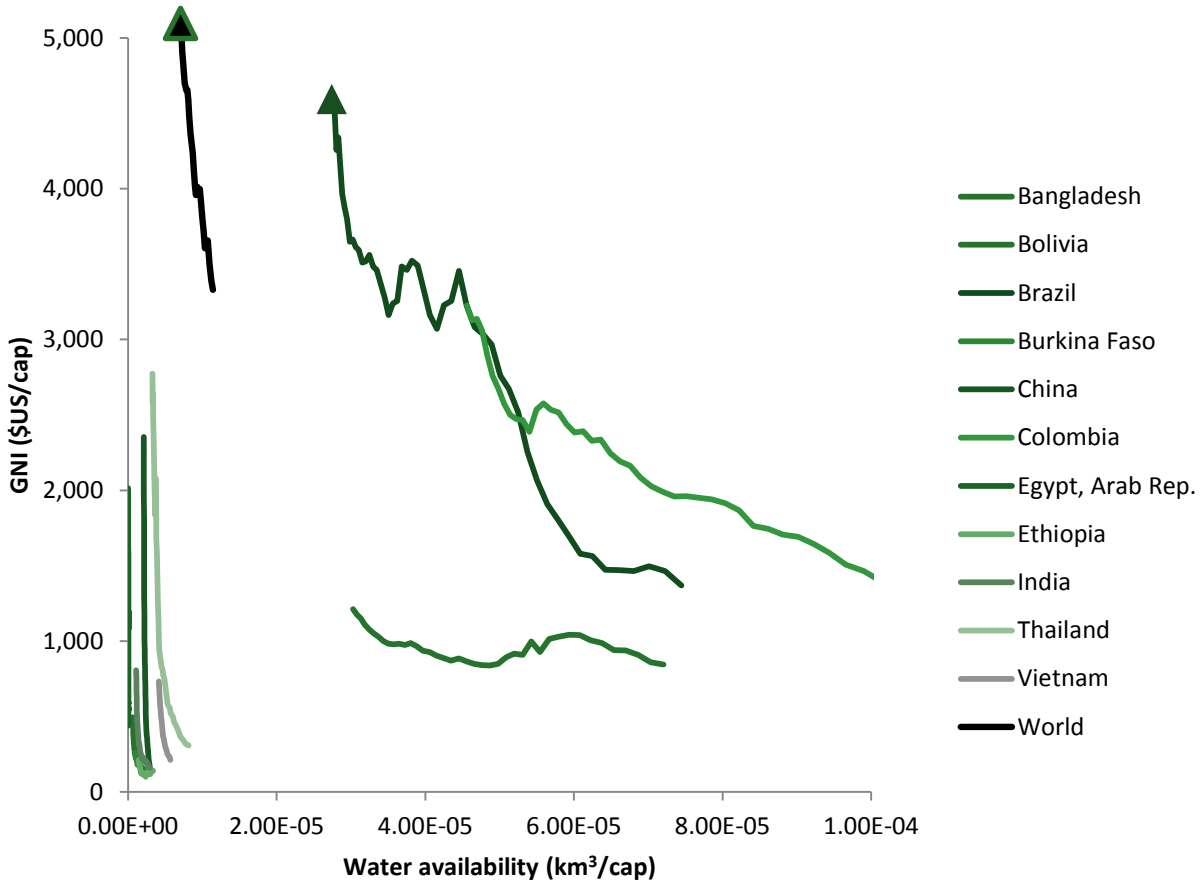
CPWF aims to increase the resilience of social and ecological systems through better water management for food production

Through its broad partnerships, it conducts research that leads to impact on the poor and to policy change

Water, food and poverty analyzed in 10 basins



Poverty and water…
Is it the resources scarcity?



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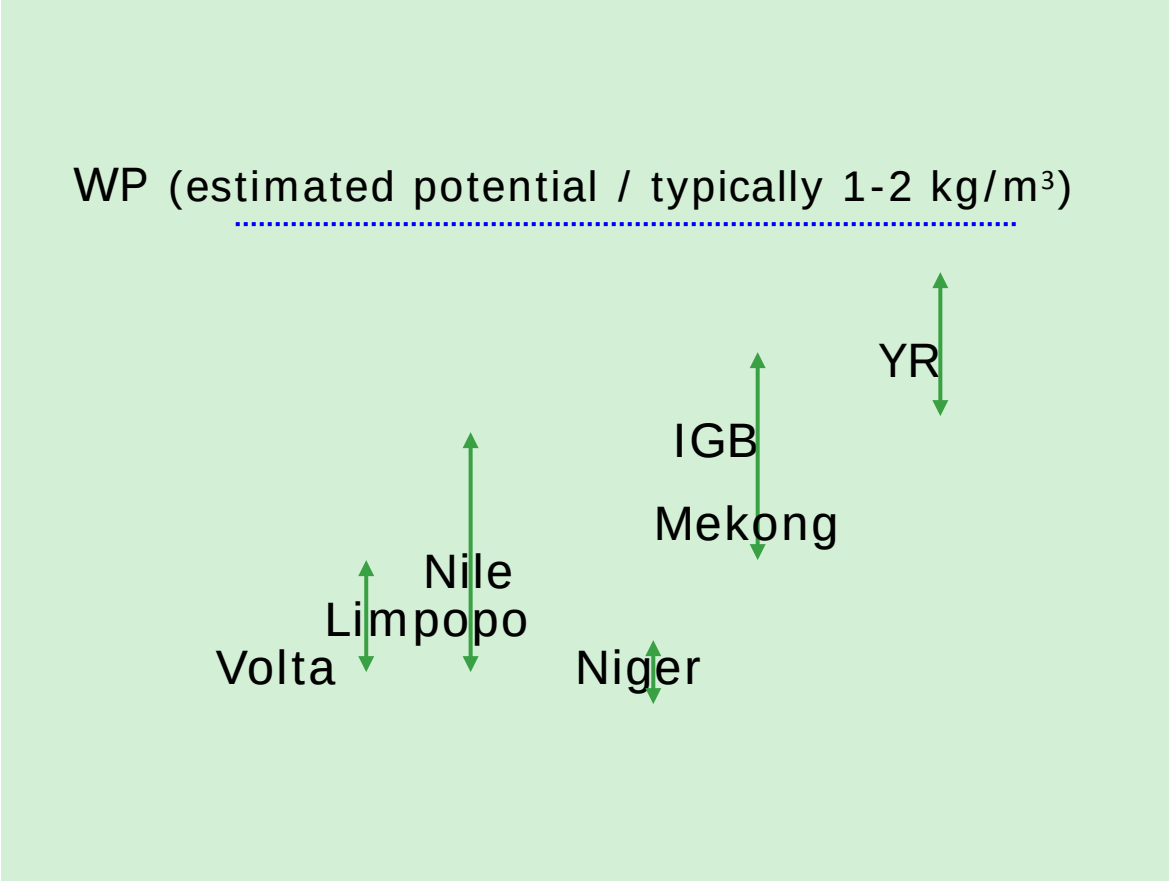
Water productivity remains very low over most areas



There is enough water to meet our needs, it's how we manage it !

- Sustainable intensification
  - Beyond a focus on productivity
- Equitable sharing of benefits and risks
  - Finding a balance and 'win-win' solutions
- Institutional water management
  - A holistic approach to avoid fragmentation among actors

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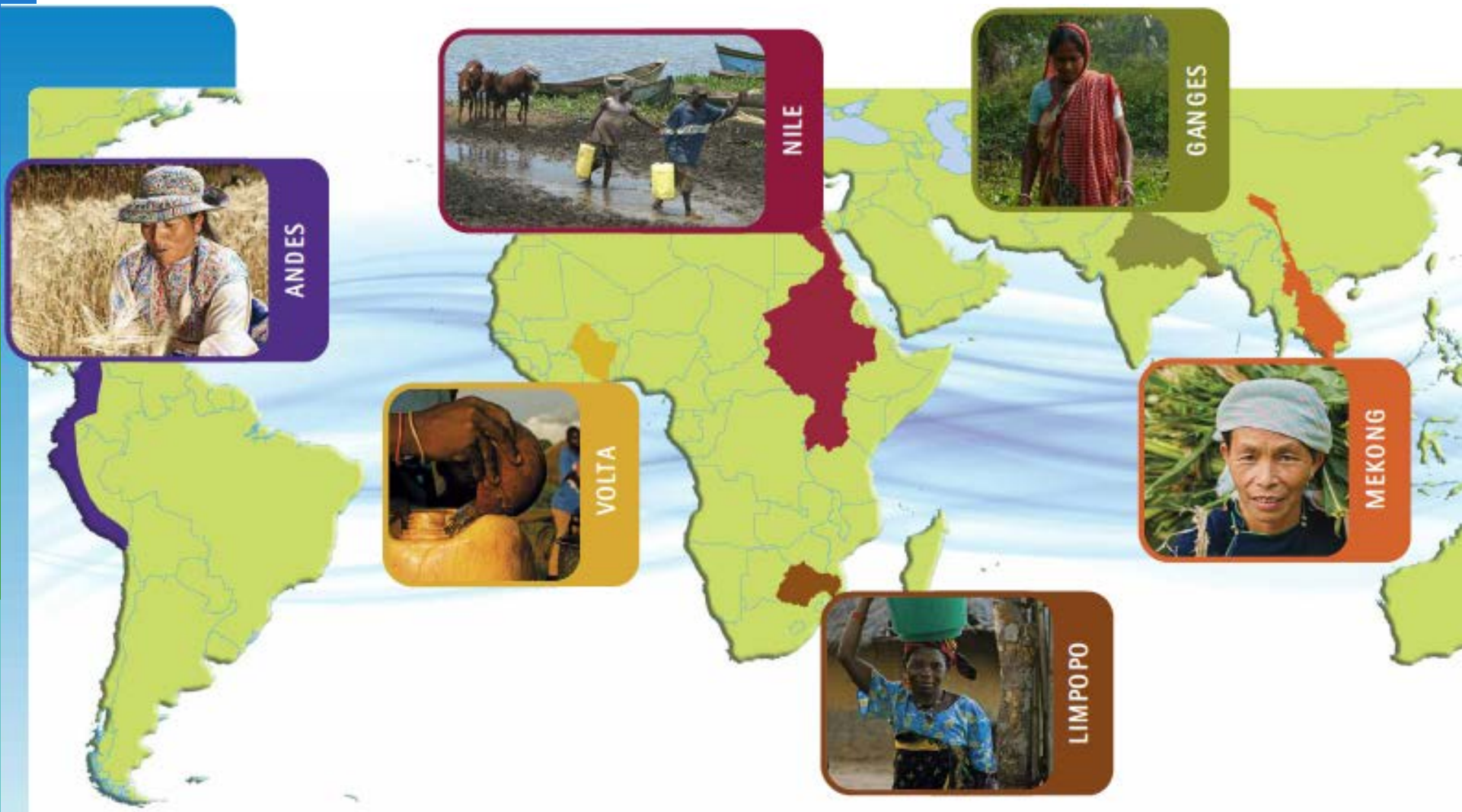

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Research programs on BDCs

- Focus on a “basin development challenge”
- In a basin
- Coherent, integrated research program
  - Technologies, policies, institutions, governance
  - Whole basin consequences of change
  - Spatial targeting of innovations
  - Multiple partners
  - Scientific evidence to inform dialogue and innovation platforms

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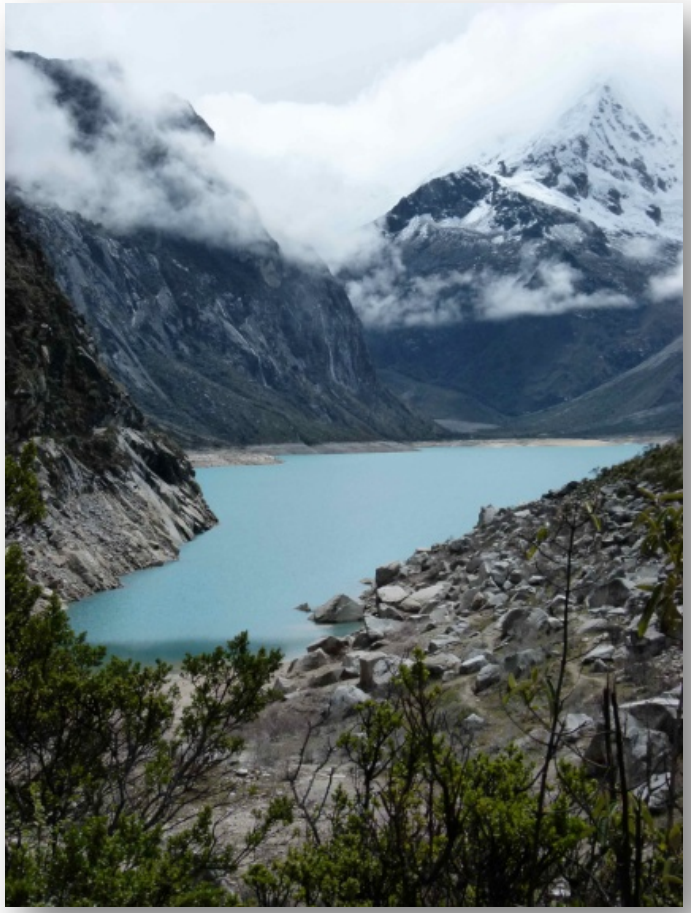
Andes: Benefit-sharing mechanisms and their low hanging fruits

- Trust funds and local dialogues established
- Upstream ecosystems restored
- Benefits downstream through improved pastures supporting community dairy production
- Consolidating Andes experience as a world-laboratory on BSMs
- Scaling out in Uganda and Nepal



Andes

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Ganges: Freshwater storage for improved livelihoods in polders

- Well managed short duration *aman* rice varieties double yield
- Improving local institutions to ensure hardware maintenance and improvement
- Key to use stored water to
  - stabilize rainy season production
  - intensify and diversify dry season production

Ganges

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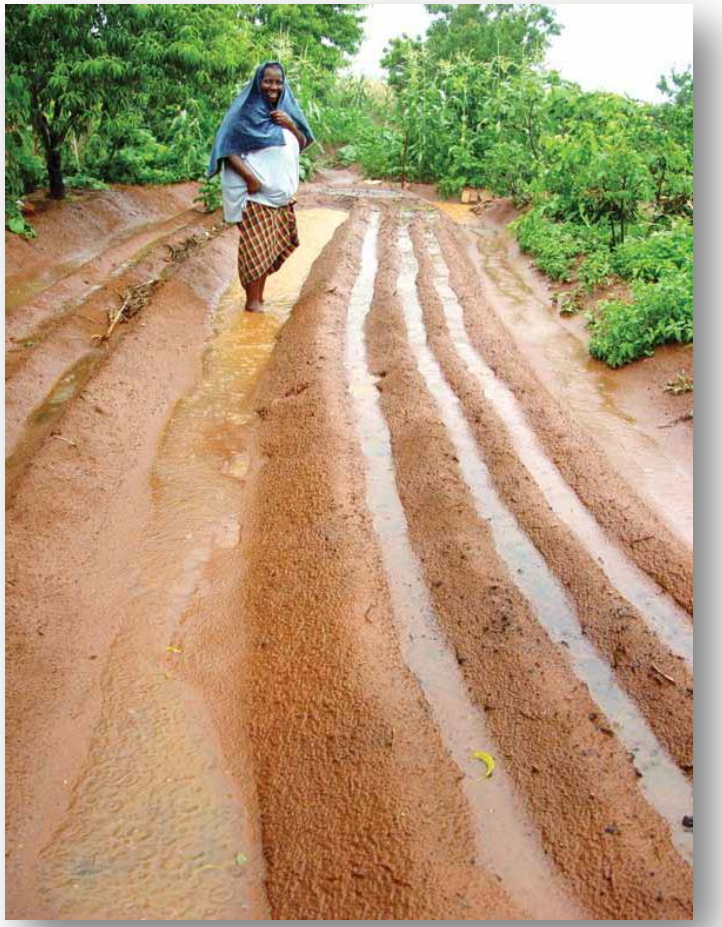
Limpopo: Rainwater management and value chains

Limpopo

- Strengthen agricultural value chains where market-related failures contribute to poverty
- Success of community innovation platforms depends on trust among the actors and sufficient incentives
- Appropriate technologies must fit existing livelihood systems and include socially acceptable incentives



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Mekong: Hydropower and livelihoods

- Techniques, land and water uses identified that can increase benefits available to riparian communities
  - Fish-rice systems
  - Artificial wetlands in reservoirs
- Add value for both dam builders and communities
- Dialogue processes identified institutional weaknesses in the ways regulations are implemented

Mekong

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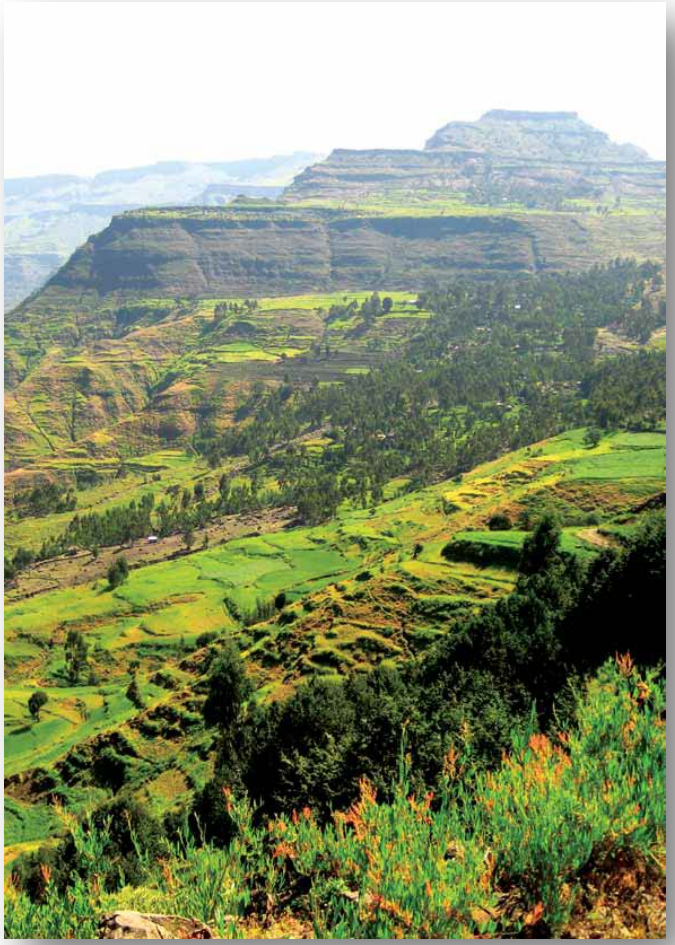
Nile: Rainwater management and landscapes

Nile

- Rainwater management interventions to target landscapes, linking bio-physical drivers with socio-economic factors
- Suitability maps considering key limiting factors: erosion, rainfall regimes, soil fertility and enterprise choices
- Development of innovation platforms in 3 different landscapes



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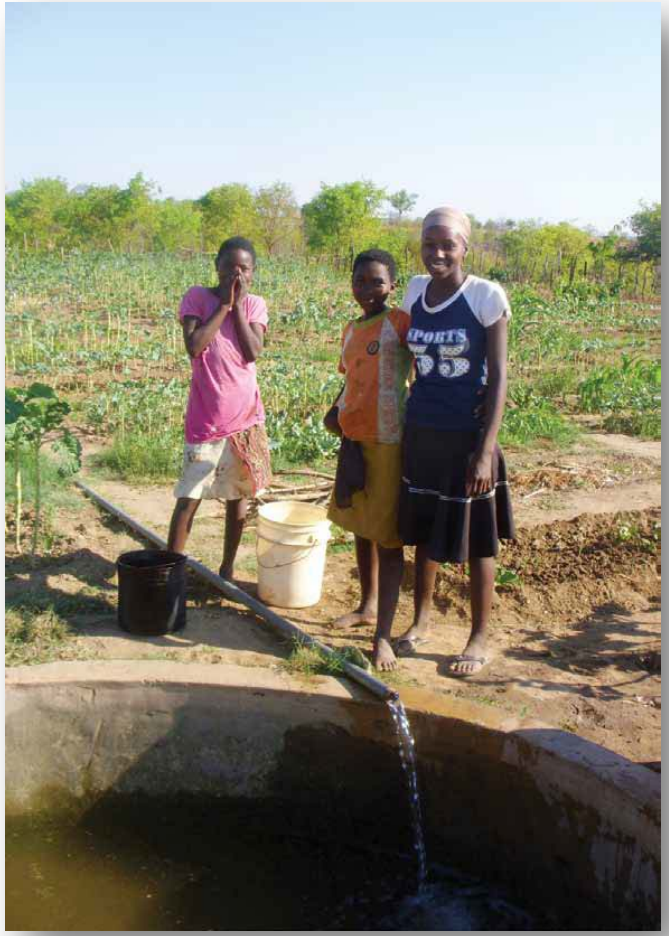
Volta: Rainwater and small reservoirs

- Identified successes (soil-water conservation, small reservoirs, and small pumps) and failures (culture and gender-sensitivity)
- Integration of maintenance costs in project budgets and capacity building of actors (mostly farmers)
- Resilience analysis helps evaluate common threads driving or limiting innovations



Volta

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The goat…
…that saves water, people and nature

Innovation platforms in Zimbabwe create local markets for goats

- Established around local specific production and marketing systems, connected to larger commercialization networks
- Markets helped raise the value of one goat from US$10 to $60

- Virtuous circle where more money flows to the producer - an incentive for growing stock feed and improving rangeland management

A virtuous circle that triggers change to a more resilient state

Improved livestock:
US$ 60 per goat
Goat mortality down to 10%

Local markets
Producers self-esteem
Improved rangeland production replacing US$15 / goat of stock feed value

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Recurrent droughts, increasing climate variability, poor connection to markets

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Rainfed maize cropping: *US$16/ha*
Livestock*: US$10 per goat*

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Sustainable intensification and
ecosystem services in the Andes

Downstream – where the concern for ecosystem services emerged

High altitude wetland (*paramo*) degraded by potato cropping and overgrazing

Eutrophication and shrinking of Fuquene Lake (downstream)

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Restoring upstream and downstream ecosystem services

Paramo restored through conservation tillage and oat/potato rotation

Water quality and downstream ecosystem services from Fuquene Lake improved

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Triggers for change between alternate resilient states

Conservation agriculture and *paramo* restoration supported by **revolving fund**

Annual net income:
2,183/ha

Revolving fund credit:
+180 farmers /year

Farmers' insufficient gain and risk aversion

Potato cropping, grazing pressure, degradation of *paramo*

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Annual net income:
US$ 1,870/ha

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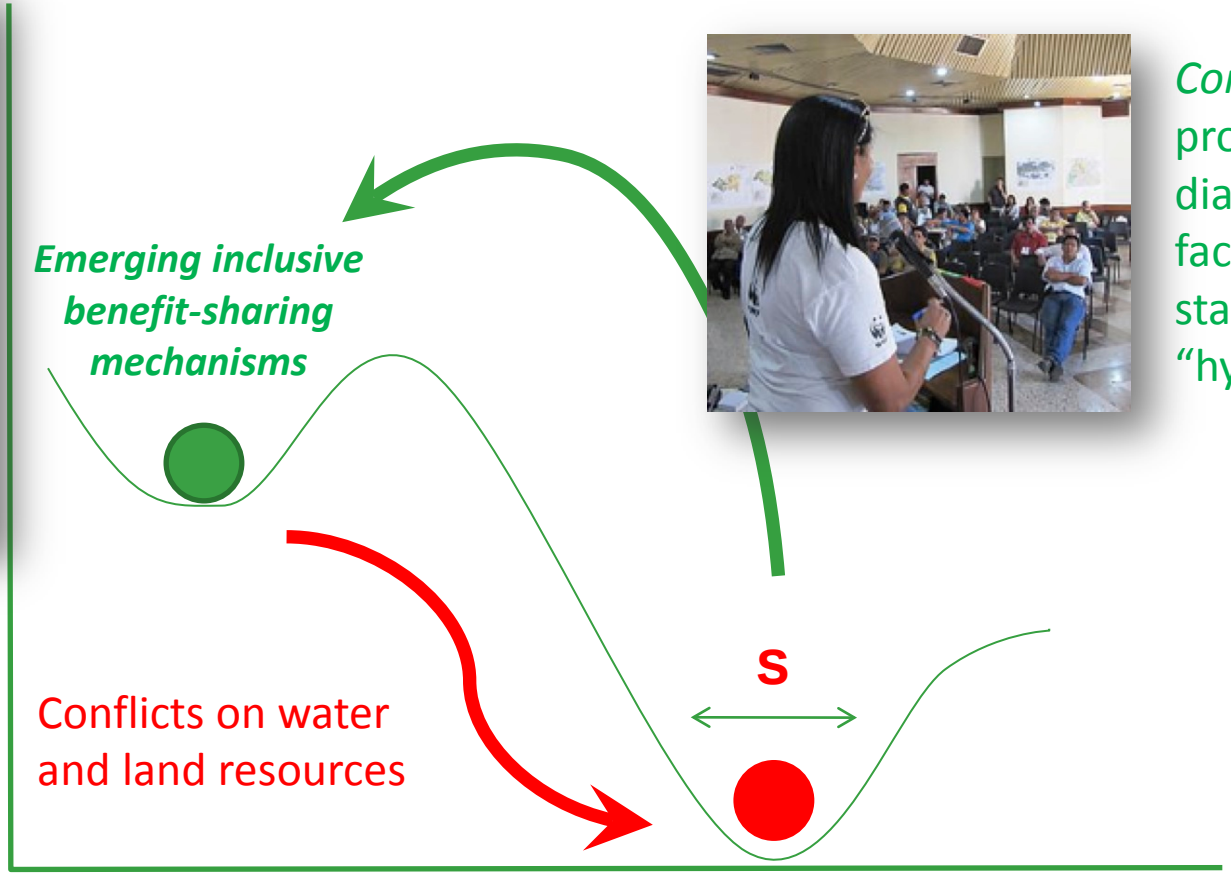
Hydro-literacy to support rights to access information and partake in decision making



Conversatorios promoting dialogue, facilitated by stakeholders' "hydro-literacy"

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How do such interventions increase water and food security ?

- Enhanced resilience
  - Combined technical and institutional innovations prevent the system from moving to undesired system configuration when shocked

- Water and food security
  - Looking beyond the « yield gap » enables diversify food production (crops, fish and livestock) and ecosystem services
  - Additional income alleviates poverty
- Empowerment
  - Enhanced people's rights and institutional governance


Thank you
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www.waterandfood.org
www.slideshare.net/cpwf