CPWF Science Report
May – November 2012

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What makes our R4D successful?
Sustainable intensification and ecosystem services in the Andes
Downstream – where the concern for ecosystem services emerged

Eutrophication and shrinking of Fuquene Lake (downstream)

High altitude wetland (paramo) degraded by potato cropping and overgrazing
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
Lessons learnt from CPWF Phase 1

Annual net income: 2,183/ha

Annual net income: US$ 1,870/ha

Conservation agriculture and paramo restoration supported by revolving fund

Potato cropping, grazing pressure, degradation of paramo

Farmers’ insufficient gain and risk aversion

Revolving fund credit: +180 farmers/year
Need for an economic engine
Irrigation and dairy farming in Nariño

Return on investment: 150%

Grazing pressure, degradation of paramo

Irrigation and alfalfa production supporting dairy intensification
Alliance with a dairy and milk Cooperative
Empowerment: hydro-literacy to support local rights to partake in decision making

Emerging inclusive benefit-sharing mechanisms

Conflicts on water and land resources

Conversatorios promoting dialogue, facilitated by stakeholders’ “hydro-literacy”
Sea-level rise: an opportunity for the poor of the Ganges Delta?
Among world’s poorest

- Poverty, food insecurity, vulnerability
  - 75% of households (HH) with 0.2-0.6 ha
  - HH income US$700/year
  - 80% of population below national poverty line

- Too much water in rainy season

- Salinity and lack of fresh water in dry season

BBS / WorldBank / WFP (2009)
Untapped potential but growing pressure from salinity

- Huge potential to improve food security and livelihoods
- Salinity not a constraint everywhere – even an opportunity

Soil salinity
- None
- Very slight
- Slight
- Strong
- Very strong

Bay of Bengal
Myanmar
Sustainable intensification of polders: technical and institutional challenges

- Lots of viable cropping systems possible with crop diversification, fish and shrimp
- Need for political changes at national and local levels
  - Canal maintenance and management
  - Shifting from rice monoculture

**Daily water salinity**

- Lower threshold limit of salinity - Shrimp
- Upper threshold limit of salinity - Rice

**Polder 3 (Station-1, Ichamoti River)**

- Rice
- Shrimp

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What makes our R4D successful? What are the right combinations?

- Understanding and enhancing ecosystem services can unlock intensification

- Combined technical and institutional innovations

- Virtuous circles need economic engines
  - Access to markets
  - Access to credit

- Empowerment is key to equitable solutions
  - Enhanced people’s rights and institutional governance
Thank you