

Rural Community Organizations in Water Science For Climate Change Adaptation

Planet Under Pressure London, March 28th 2012

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- Why rural community organizations in water science?
- Focus on equity and efficiency
- Indicators and monitoring
- Preliminary results
- Lessons learnt

1,500 organizations



How invisible are the water issues of rural communities of the Andes?

32 millions (74%)







All







11 millions (26%)

12,000 organizations

Visibility

"Community water organizations need to become visible more than they need to become legal"

(Luis Velasco, President, Mondomo water community organization, Cauca, Colombia)

Can we make local issues visible by using local data collected and analized by small community water organizations?

What do water organizations need to know to be better prepared when interacting with authorities?



What do water organizations want authorities to know about their conditions?

Project activities

- Water providers identify their priority issues
- Participatory selection of indicators
- Develop monitoring protocols







Data collection and analysis by community water organizations
Dissemination and use of results

Focus on equity and efficiency

The criteria to evaluate the consistency of strategies with successful adaptation to climate change are (Adger et al. 2005; de Loe et al. 2007):

- Equity
- Eficiency
- Effectiveness

Indicators and monitoring

EQUITY

- Over allocation of water: how much water is available in the streams vs demand
- Distribution of scarcity: role of concessions and infrastructure
- Access to municipal subsidies for public utilities rural vs urban

EFFICIENCY

- Technical efficiency: non revenue water, water meters
- Internal efficiency: financial sustainability vs subsidies
- Effect of community ownership on efficiency

• Storage capacity



Preliminary results

Stream flows vs water use under fixed conditions of water allocation





Water concessions

- Evidence of over allocation of water. Scarce information about water availability for allocation decisions
- 70% of rural organizations that distribute water have no concession
- Fees apply to organizations with concession. No incentive to obtain a concession and pay for it

Uribe Botero (2005)

- No existing mechanisms for conflict resolution
- In practice concessions are granted at the discretion of environmental authorities
- Approval or denial standards poorly defined
- In situations of scarcity the government has re-allocation authority MacDonnell and Grigg (2007)



Preliminary results

Concessions in a rural area of Cali





















19 water intakes on Quebrada El Chocho, 3 concessions



Concessions in comparison





Preliminary results

- Environmental authorities have limited capacity to enforce water allocation norms
- Concessions are not playing a role in equity or water access security
- Opportunity to link concessions to multiple uses of water
- Need to disseminate information to support local allocation arrangements



Hoses for 9 small cassava mills in rural Mondomo.

Efficiency: financial sustainability

Preliminary results





Consumption charge in first stratification group (US \$)





Storage capacity (Hours)





- The collection and analysis of information by local water organizations is helping them address their issues and giving them visibility
- However, without addressing equity and efficiency, data collection / analysis are secondary to the viability of local organizations

Next steps



- Continued capacity building
- Dissemination
- Use of information for planning
- Lobbying
- Developing proposals to address emerging issues
- Regional comparisons within Andean countries

http://www.landfood.ubc.ca/swc/projects/ACCCR/

THANK YOU!

