



Financial sustainability of watershed conservation schemes: Lessons from LAC

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Innovative financing for ecosystems management

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What drives investments in watershed conservation?

- ❑ Climate change → externalities visible
 - Frequency of El Niño events/ droughts & floods
 - Externalities visible
 - Awareness: Nature/Water – real license to operate
- ❑ Companies and citizens: willing to pay – good governance is key!
- ❑ Key ingredients: The role of the government in setting up the institutional and regulatory framework & safeguards
 - Transparency in collection
 - Use for intended goals
 - Clear scientific base
 - Rigorous hydrologic monitoring → communicate & improve outcomes
 - Models → understand the vulnerabilities under CC
 - Accountability at all levels
- ❑ Financial & Institutional sustainability

Financial instruments for watershed conservation

☐ PES / PWS

- Water Funds: private versus public payment schemes
- Ecuador & Peru

☐ Water stewardship : Brazil

☐ Micro-Finance for EBA: Colombia



Water Stewardship in Rio Doce- Brazil

☐ The Rio Doce Basin

- South East of Brazil, 83,000 km²
- Home to the largest steel making complex in LAC

☐ Governance of the basin: iBio (www.ibio.org.br)

- IBIO –Basin Executive Agency, technical support to 11 Water Committees
- Water Committees
- 2 divisions
 - Agency
 - Institutional and strategic planning
- Green Infra Service providers: Instituto Terra



N Fazenda Bulcão - 2000 RPPN Fazenda Bulcão - 2013



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Water Stewardship in Rio Doce- Brazil

- ❑ Helping companies mitigate (future) water risks
 - Vulnerability model
 - In 2016 – 26 million BRL – 8 million USD
- ❑ Private sector investments in the Basin
 - Biomass producers – eucalyptus: rainfall patterns, where to locate?
 - San Marco (mining company): 24 million USD in reforestation –minimum flows 15 to 20 years
 - Hydropower companies: sediment management –lengthen reservoirs life
- ❑ Key:
 - Transparent and scientific based management of iBio: ANA maximum evaluation, local and federal recognition
 - Accountability at all levels: are granted the right to serve as RB each 5 years – request by all RBC
- ❑ Renova Foundation & Bento Rodriguez dam disaster

Financial reparation and compensation

R\$ 3,7 billion

destined to reparation and compensation actions

R\$ 1 billion

in indemnifications

51 service

stations between administrative offices, mediated indemnity center and information center

Recuperation of the waters and vegetation

113 recoverd tributaries



tributaries in Minas Gerais and Espírito Santo

Source: Rio Verde - Rio - CDB, Gestão Ambiental / Observatório



47 thousand hectares

of land are in the process of forest restoration. This shall be equal to an area of a little over 11 thousand recovered soccer fields by the end



230 professionals

trained as the Labor Qualification Course

511 springs

surrounded for protection and plans for a further 4,500 to be protected in the next few years



Source: Fundação de Recuperação Ambiental, Rio Doce - Gestão Ambiental / Observatório



R\$ 500 millions

were transferred to municipalities for sewage treatment

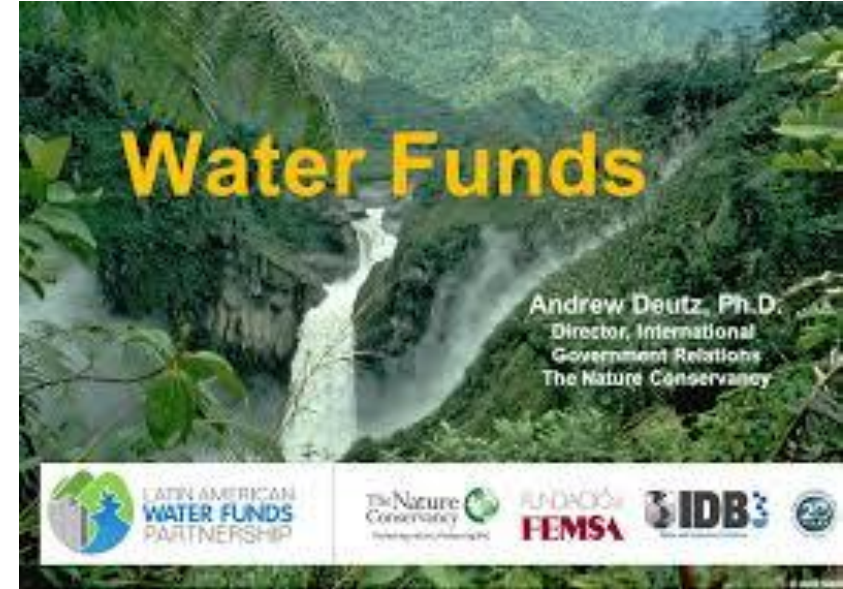
Source: Rio Verde - Rio - CDB, Gestão Ambiental / Observatório

TNC Water Funds

❑ TNC created 30 water funds around the world

❑ Lessons learned:

- Attractive vehicle for pooling and deploying collective investments in watersheds...still...
- Not yet fully implemented at watershed level
- Greater diversity and surety of cash flows
- So that → frontloading investments (securitization cash flows)



Water Fund Quito



❑ Water fund Quito: FONAG

- Launched in January 2000, with USD 21,000 in public & private funding
- Endowment of USD 12 million
- Invest approx USD 3 million/year → condor bioreserve & surrounding farmlands
- Reforestation, forest protection, cover crops and change in agricultural practices
- Since 2006 – 2% water bills Quito



Peruvian experience with Water Funds

First country in LAC to collect funds for watershed protection

❑ Important sequence

- First a number of local pilots: TNC trust funds & local experiments collecting 1% of water tariffs (e.g. Taropoto)
- People need to see the effect of green infra and develop trust in governance arrangement

❑ Public Payment scheme introduced in 2016:

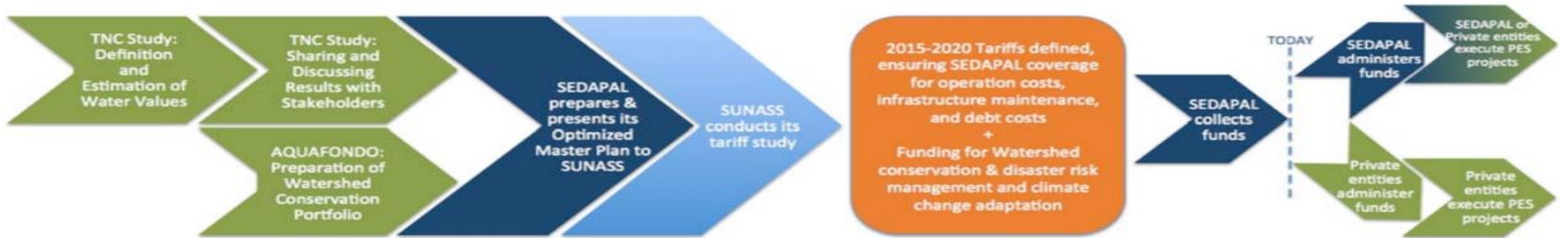
- Collect additional 1% of water bills (nationally)
- Lima= 10 million Soles = USD 3 million/year

❑ Trends and impact of climate events - neighbors:

- Increasing support – due to recent floods catastrophic impacts
- While Ecuador little effects – had implemented green multifunctional infrastructure



Peru Case

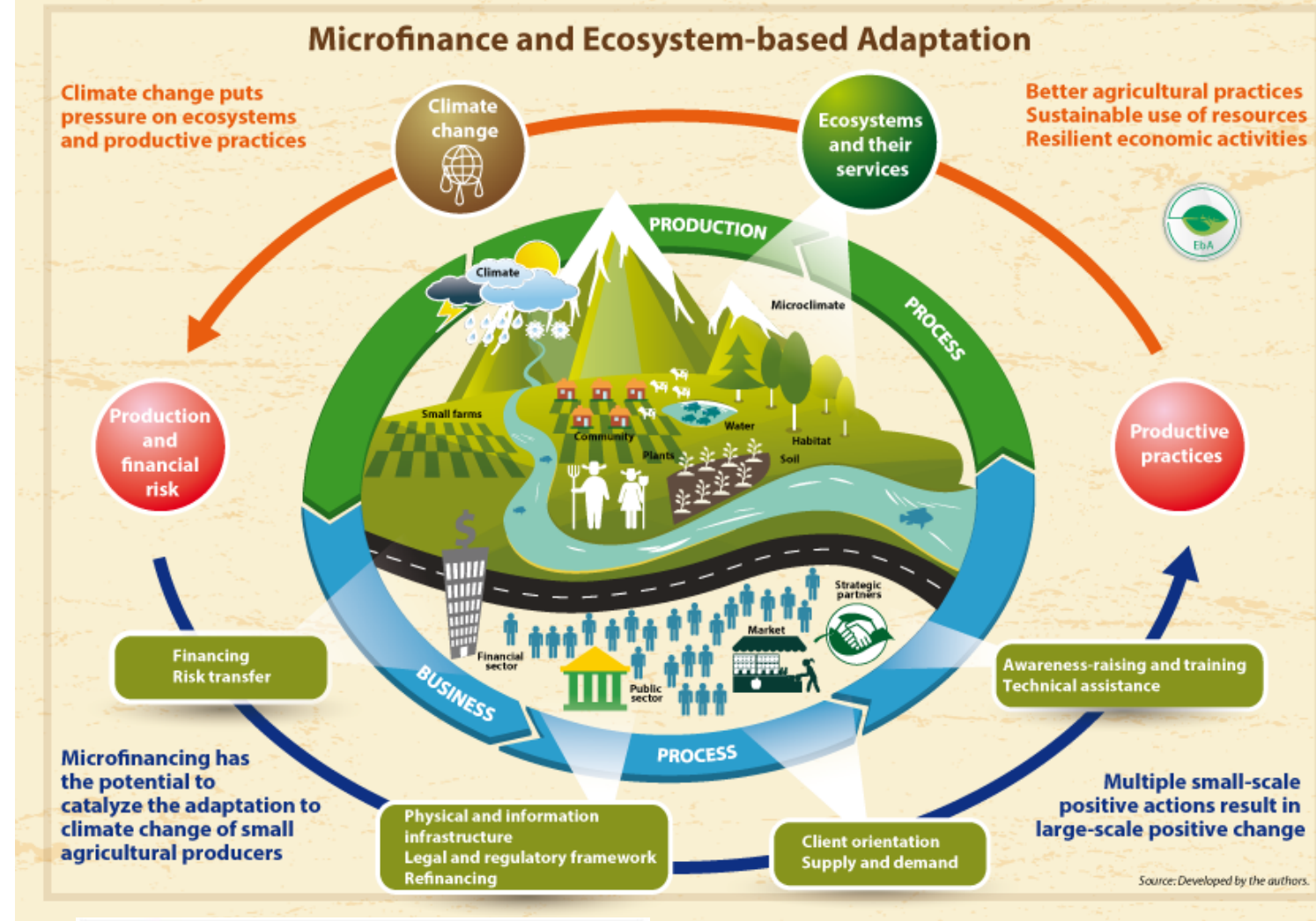


- An investment – not a finance challenge
- Challenge → find a suitable and efficient vehicle to invest the earmarked resources in projects that maximize the return in terms of hydrological services

Microfinance for Ecosystem Based Adaptation

- Pilot phase: Colombia and Peru
- UNEP-ROLAC
- Upscaling– Climate Funds
- Objectives:
 - Resilience vulnerable rural communities
 - Sustainability ES
 - Support introduction of specific (micro) financial products

Challenge: collective investments



| | | |
|--|--------------------------|-----|
| | Organic fertilizers | 513 |
| | Natural shade | 2 |
| | Conservation agriculture | 28 |

The way forward

☐ Two sides of the same coin: Good governance = Trust

- (-) Transaction Costs = Better Cash flow Profiles
- (+) Revenue Streams = Bankable projects
- (-) Risk Perception

☐ Success factors

- Key: alignment of incentives – FfP implementation arrangements
- Rigorous hydrologic monitoring & scientifically backed system understanding
→ Robust investment pathways

☐ ICT Mobile Tech & Fintech → governance constraints

- ☐ (+) implementation arrangements
- ☐ Trust & transparency - environmental offsets



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