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Regional Differences and Similarities in PES Programs for Watershed Services

Theo Dillaha
Office of International Research, Education, and Development
Virginia Tech

SANREM CRSP

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This presentation summarizes regional syntheses of Payments for Watershed Services (PWS) activities in:

- **Africa**: Paul Ferraro, Georgia State University
- **Asia**: Margie Huang and Shyam Upadhyaya, Winrock International
- **Latin America**: Douglas Southgate, Ohio State University and Sven Wunder, CIFOR

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Outline

- Regional syntheses objectives
- Regional PWS characteristics
  - Africa
  - Asia
  - Latin America
- Summary and conclusions
- Discussion

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Regional Syntheses Objective

Identify/characterize:

- Regional trends in PWS programs
- Contexts and conditions that shape PWS programs across each region
- Effectiveness of PWS programs in each region

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State of PWS in Africa

- Two functioning PWS programs: ***Working for Water*** and ***Working for Wetlands*** in South Africa
- Primarily public works programs whose primary objective is poverty alleviation with environmental services as a side benefit.
- Identified 8 other PWS schemes in the planning stages.

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State of PWS in Africa

- PWS (and PES) lagging other regions
- 3% of global carbon offset market
- Katoomba Group Inventory (Uganda, Kenya, Tanzania, South Africa):
  - 18 biodiversity (2 making payments)
  - 17 carbon (5 making payments)
  - 10 watershed services (2 making payments)

State of PWS in Africa

- Few projects are conditional
- Most initiatives funded through:
  - overseas development assistance,
  - international conservation organizations,
  - governmental agencies
- Little local or private sector payments except for small-scale ecotourism activities.

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Why so little PWS in Africa?

- Fewer potential buyers (comparatively)
- Low urban population (35%)
- Low municipal water system use
- Few hydroelectric facilities (3.2%)
- Few industrial water users
- Poverty and low tax revenues
- Comparatively high transaction costs

Why so little PWS in Africa?

- Small land holdings (> transaction costs)
- Customary/conflicting land tenure
- Lack of enabling legal, regulatory and administration elements*
- Lack of needed institutional capacity

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Africa Summary

- Considerable PES-like activity in Africa
- Few implemented PWS activities with payments
- Numerous PWS/PES challenges
- Few local buyers
- International buyer potential for biodiversity and carbon

State of PWS/PES in Asia

PWS interest due to:

- Rapid economic growth and water needs creating demand for watershed services.
- Erosion and sedimentation creating significant water quality/quantity problems.
- Traditional approaches to water resources protection largely unsuccessful.
- CO_2 markets (China 66%, India 3%)

State of PWS in Asia

- 30 PWS case studies identified
  (15 with sufficient information for analysis)
- More PWS in Indonesia and Philippines
  (less command and control)
- PWS initiatives in the planning/pilot stage
- Leading player - World Agroforestry Center "Rewarding Upland Poor for Environmental Services" (RUPES)

Factors affecting PWS in Asia

Enabling factors:

- High urban population
- High municipal water system use
- High hydroelectric production (24.2%)
- Rapidly growing industrial water use
- High rural poverty (low opportunity costs)
- Intermediate institutional capacity

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Hindering factors:

- Small land holdings (> transaction costs)
- Forest and agricultural land state controlled
- Weak property and land use rights (varies)
- Lack of enabling legal, regulatory and administration elements*
- PES concept is new*
- Lack of baseline hydrologic data*
- High transaction costs (rarely quantified)*

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Other factors/issues:

- Governance: ranges from command and control to democratic
- PES currently donor-driven
- Poverty alleviation is often an additional PES objective
- Watershed service priorities: increased water yield, low flow augmentation, water quality, erosion control
- Land tenure as a payment/reward
- Contracts of 2 to 5 years typically

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Other factors/issues:

- Per capita payments typically insufficient to impact poverty
- Targeting to increase environmental benefits is rare*
- Payments based on performance-based monitoring and evaluation are rare*

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Asia Summary

- Significant PWS potential due to rapid economic growth and demand for water
- Many pilot projects but few on-going implemented programs
- Land tenure an obstacle
- Small land holdings (> transaction costs)

State of PWS/PES in Latin America

- PWS activities more advanced than in other regions of the world
- **Ecuador:**
  - Quito, Cuenca, and El Angel: fees on water bills to fund conservation activities but no payments to land owners
  - Pimampiro: water fees with payments to landowners to protect forests and grasslands

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State of PWS/PES in Latin America

- **Costa Rica:** Fuel tax supports national PSA program to protect and restore forests, little targeting.
  - Government **bundles** and markets services
    - greenhouse gas emissions
    - hydrologic services
    - biodiversity conservation
    - protection of scenic beauty for recreation and ecotourism

State of PWS/PES in Latin America

- **Mexico:** National water fee supports national PSA program to protect and restore forests, some targeting
- **Brazil:** Proambiente program pays farmers to use best management practices but with no environmental service targeting (similar to USDA conservation programs)

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Enabling factors in Latin America:

- High urban population
- High municipal water system use
- High hydroelectric production (22%)
- Larger land holdings (fewer sellers)
- Intermediate institutional capacity
- Tradition of commercializing rights to land use and land management practices
- Significant local/national funding for PWS

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Hindering factors:

- Little evidence of environmental benefits (skepticism by buyers?)
- Higher costs due to higher opportunity costs (people have higher incomes)
- Water typically subsidized by governments and sold below cost – difficult to add on PWS fee/tax
- Suspicions of disguised privatization of public-access resources

(particularly in Venezuela and Andes)

Latin America Summary

- Global leader in PWS programs (Mexico, Costa Rica, Ecuador), but most PES-like and still not widespread
- Majority of PWS funds coming from Latin America
- Some programs running for 10 years
- Larger land holdings and land tenure important enabling factors
- Significant institutional capacity

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Summary

- Few projects are conditional
- Dependence on international donors for financing and technical assistance
- Inadequate enabling legal frameworks
- Limited successful business models
- Suspicion of markets for public goods

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Summary

- High transaction costs due to
  - small land holdings
  - lack of institutional capacity
  - PWS/PES is still in the development/ demonstration stage
- Inadequate data on transaction costs

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Summary

- Lack of monitoring of impacts on environmental services – we don't know if it works
- Poverty impacts poorly quantified
- 95% plus PWS initiatives in the planning/pilot/abandoned stage

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Conclusions

- PWS and PES most advanced in LA
- PES shows great potential for:
  - Introducing new sources of money to address environmental problems
  - Increasing accountability (conditionality)
- Little direct evidence that PES is improving watershed services.
- Public water subsidies makes PWS financing difficult.
- PWS not quite ready for primetime, more research & demonstration needed before widespread implementation and investment (my opinion).

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Questions and Discussion