

# Payments for Environmental Services and Poverty



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# Structure

**I.** PES definition and concepts

**II.** What poverty impacts?

**III.** Conclusions

# **I. PES definition and concepts**

# Definition of PES

1. a **voluntary** transaction where
2. a **well-defined** environmental service (ES)  
- or a land-use likely to secure that ES -
3. is being “bought” by a (min. one) ES **buyer**
4. from a (min. one) ES **provider**
5. if and only if the ES provider continuously secures ES provision (**conditionality**).

= “purist definition” – more PES-like than PES-pure out there ...but good to have a prototype in mind!

# Application of PES

- Four services: **carbon, watersheds, biodiversity and landscape beauty protection**
- 1) user-financed  $>$   $<$  2) gov't financed PES
- **“Contractual conservation”** conservation paradigm is a response to hard conservation trade-offs – compensations creating `win-win
- Goal: conservation; side-objectives: variable
- REDD = inter-national PES system; nations may or may not use PES on the ground

# Case 1: Pimampiro (Ecu), “user-financed”


- *Service*: Watershed protection
- *Buyer*: Municipal water company
- *Seller*: Community in upper watershed, 550 ha protected
- *Voluntary*: individual contracts 2000—
- *Conditional*:  
Previous sanctions

## Case 2: PSA Costa Rica, “gov’t financed”

- *Services*: biodiv, C, watershed, landscape
- *Buyer*: State C Rica
- *Seller*: Forest owners, nationally
- *Voluntary*: contracts 5 years, 1996-
- *Conditional*: Monitoring, sanctions
- Uniform rate, politics

# What trade-offs can PES address?

(TEEB 2009)

- 
1. Beneficiaries (“winners – losers”)
  2. Spatial (“benefits here – costs there”)
  3. Service type (“provisioning – other services”)
  4. Temporal (“benefits now – costs tomorrow”)

(Increasing relevance)

## Taking PES to a **messy world** (the tropics):

- Include **insecure land tenure** – and tenure tied to “active” (ES degrading) land use?  
=> need (to create) *de facto* rights to exclude
- Adding “carrots” (=PES) on existing “paper sticks”  
=> combine carefully with (defunct) **command-and-control** measures
- PES = “victim pays” principle  
=> What de facto entitlements exist?
- ⇒ Think ‘carrots’ (~PES) as a **complement** (not substitute) to ‘sticks’ and institutions

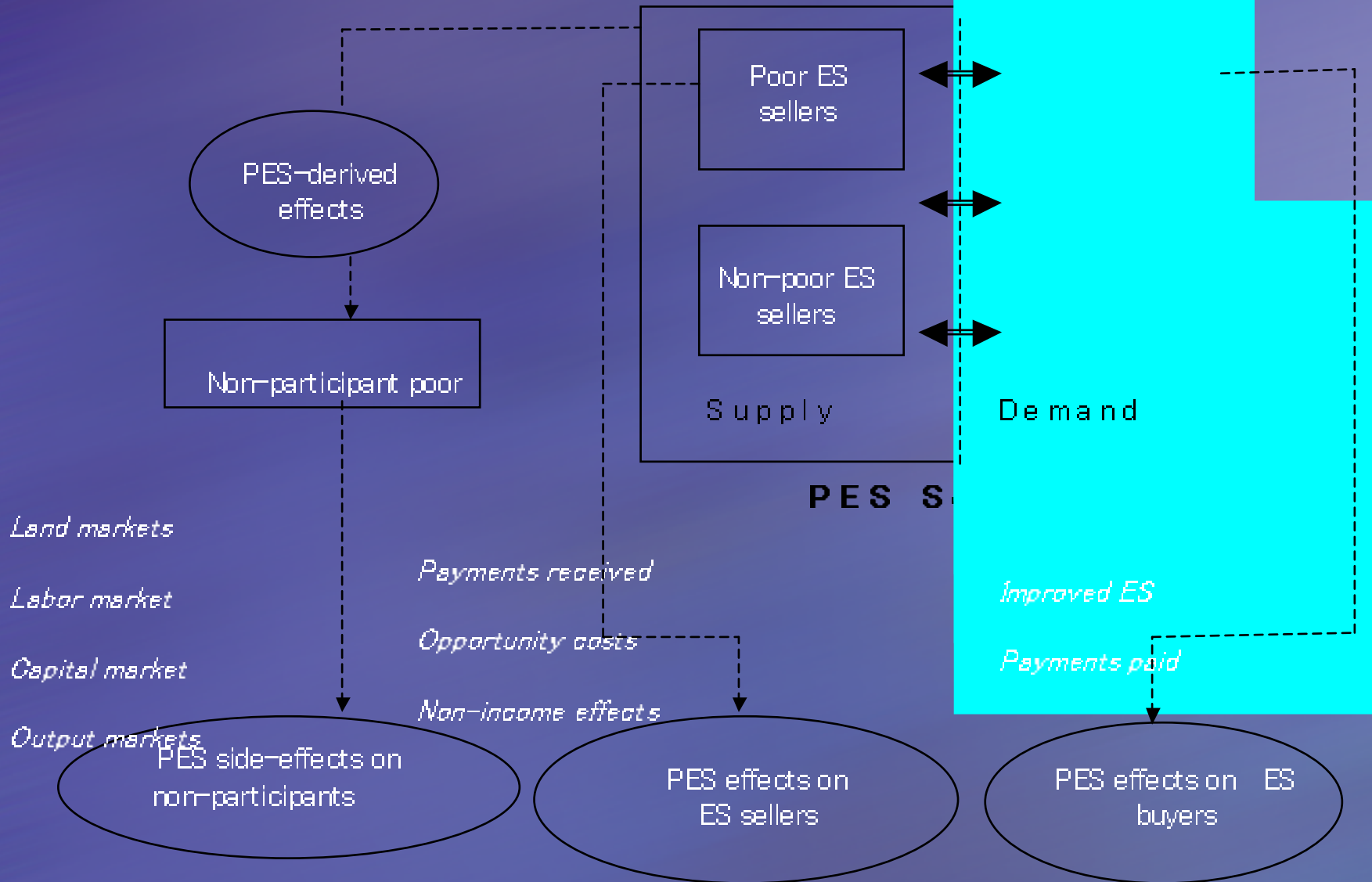
# Will PES pay for all the Ecosystem Services identified by the MEA?

--- **No!**

- MEA "provisioning services" are really **products** not services (ex: fuelwood, NTFPs)
  - Among services, **PES** pays for "**externalities**", not internalized ES (ex: downstream flood protection – yes; enhance on-farm soil fertility – no)
  - Among externalities, only credibly **threatened** ES will normally be paid for
  - Among threatened externalities, only those perceived as **most valuable** ( $WTP > WTA$ ) are paid for
- => PES will target **strategic subset** of ES

## **II. What poverty impacts?**

# Impacts of PES schemes on



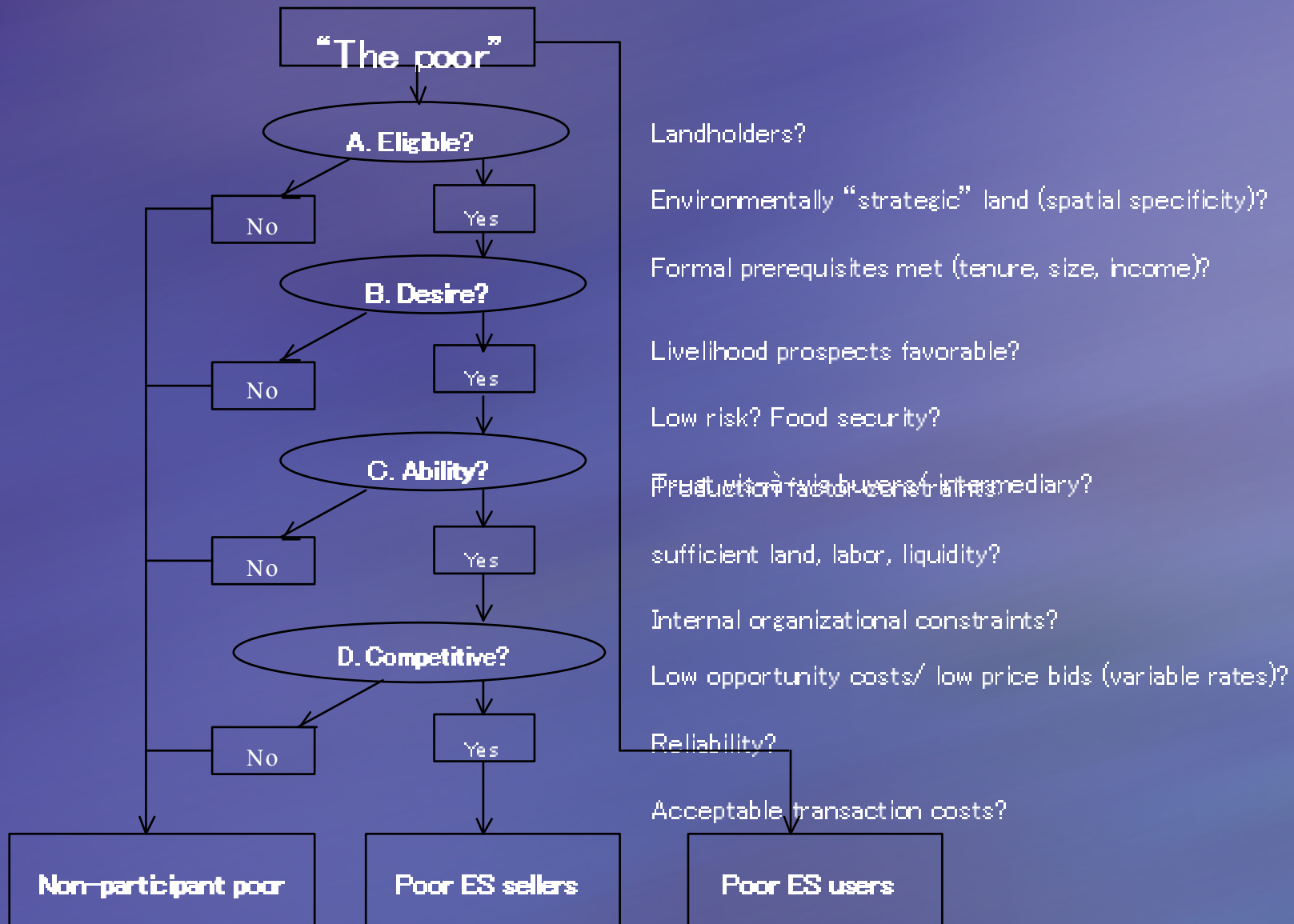
## Three PES-poverty target groups

- 1) Poor ES providers
- 2) Poor ES users
- 3) Poor non-participants

## Four PES-poverty dimensions

- 1) Can poor **ES providers** participate?
- 2) When they do, do they **gain** significantly?
- 3) Are poor **service users** better off from PES?
- 4) What happens to **non-participants** (landless laborers, food consumers, etc.)?

# 1. Participation of the poor in PES schemes



# Poor providers may face **structural access constraints**, but also **opportunities**:

## 1. Often **insecure land tenure**

Claims overlap, inability to exclude

## 2. **High transaction costs**

of dealing with many smallholders

- ...but they often occupy environmentally sensitive (=economically marginal) lands producing ES
- ...and they tend to have low labour opportunity costs (simple ag tech) lowering their ES price bids
- ...all gov't-financed PES in the South (C. Rica, Mexico, China, Vietnam, S Africa) do pro-poor targeting

=> Little overall 'bias against the poor' – but moderately poor may have better access (Pagiola et al. 2008 - Nicaragua)

## 2. Effects on service providers

- *World Development* (Grieg-Gran, Porras & Wunder 2005): 8 PES cases in Latin America.
  - PES household **income/spending share**: 16% (Virilla, CR), [C.Rica: for 25%, PES>10% of hh income. *Poorer* areas: Osa Peninsula: PES=primary inc. source for 44% of hh; Pimampiro: PES/Y=30%]
  - **Asset generation** from carbon plantations (Huetar Norte, PROFAFOR: exp. return IRR=12-27% 30 yr)
  - Positive **non-income effects**: +tenure security, +better organization, +visibility: in some cases preferred to cash!
- ⇒ Poor providers generally benefit – incl. poorest!  
Excep: coll. PES intra-community losers; ES users don't pay

### 3. What about poor service users?

- PES Villa de Leyva, Colombia: ~15 upstream farmers; ~2,500 downstream water consumers – yet NGOs neglect the latter re. “poverty”!
- Most poor ES users do not become ES buyers because they lack organization (e.g. mangrove restoration  $\Leftrightarrow$  small fishermen). Most PES are buyer-led and monopsonic!
- Some poor ES users benefit as “free riders” – e.g. *urban non-metered water users*

=> Poor service users stand to gain!

## 4. PES impacts on non-participants

- Depends on derived effects from labour, capital, land, output markets.
  - Ex: Noel Kempff (Bolivia), protected area financed by carbon + biodiversity interests; main losers: landless labourers losing timber company jobs.
  - Consumer effects: if food supply inelastic, large set-asides cons. hurt the poor (Zilberman 2008)
  - Counter-ex: Environmental restoration cons. (A/R or agroforestry) stimulate local employment
- => PES, like any (effective) set-aside conservation – can cost jobs – espec. in large-scale (e.g. REDD)!

# **III. Conclusions**

# PES-poverty effects

1. Some access rules and structural constraints may hamper **participation** by poor ES providers; others are in their favour  
=> Curb/ subsidize transaction costs, espec. start-up
2. Net positive effects for **ES sellers** (often for 'moderately poor' smallholders), cash + non-income benefits – but not huge gains, temporary  
=> Little need to intervene on their behalf
3. **ES users** also benefit – incl. as free riders  
=> Oil the wheels to increase scale of efficient PES
4. **Other poor** – positive or negative side-effects  
=> Pre-diagnosticize problems, remedy if significant

**Two  
(seemingly  
happy) PES  
recipients in  
Pimampiro,  
Ecuador**

[www.cifor.cgiar.org/pes\\_ref/home/index.htm](http://www.cifor.cgiar.org/pes_ref/home/index.htm)