Financing Mechanisms for Ecosystem Restoration

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Payments for Ecosystem Services

Definition 1

PES can be defined as "*voluntary transactions where a well-defined ecosystem service (ES) (or land-use likely to secure that service) is 'bought' by at least one ES buyer from at least one ES provider, if and only if the ES provider* ***secures*** *ES provision*". (Wunder, 2005)

Broader Definition

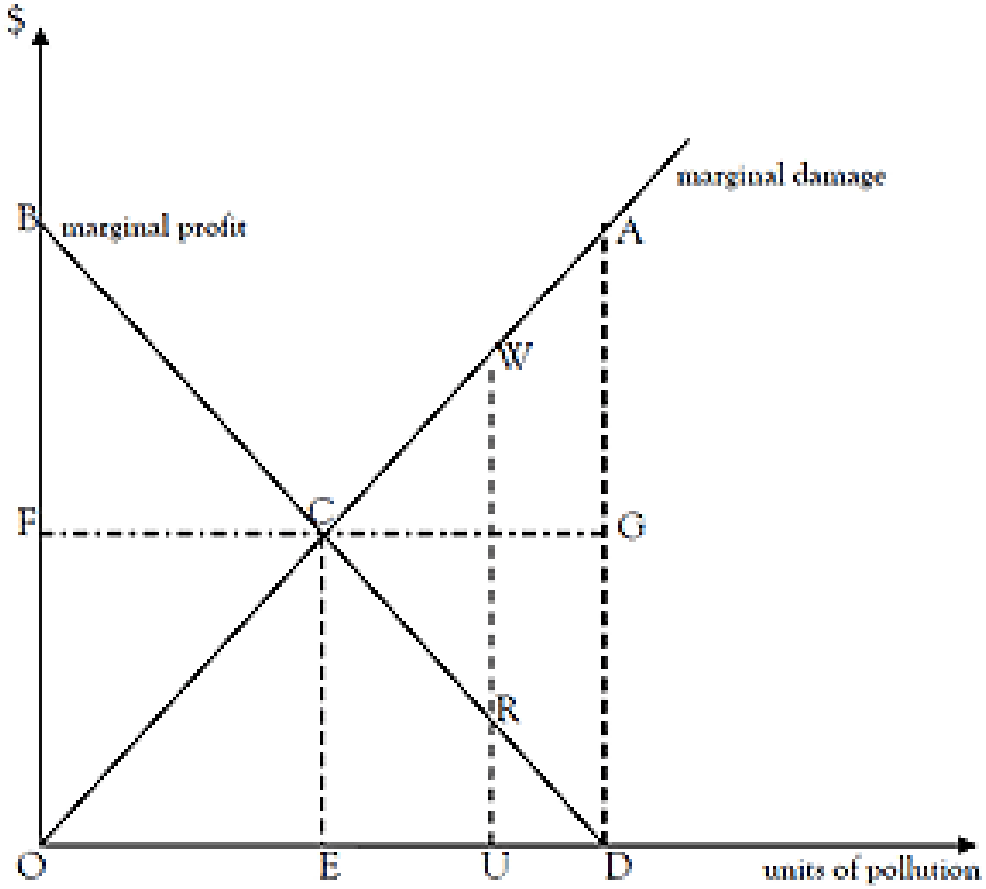
- PES schemes are a transfer of resources between user(s) and provider(s) of one or more ecosystem services conditional upon their provision.

- **Trade-offs** between **private** and **societal benefits from land uses**

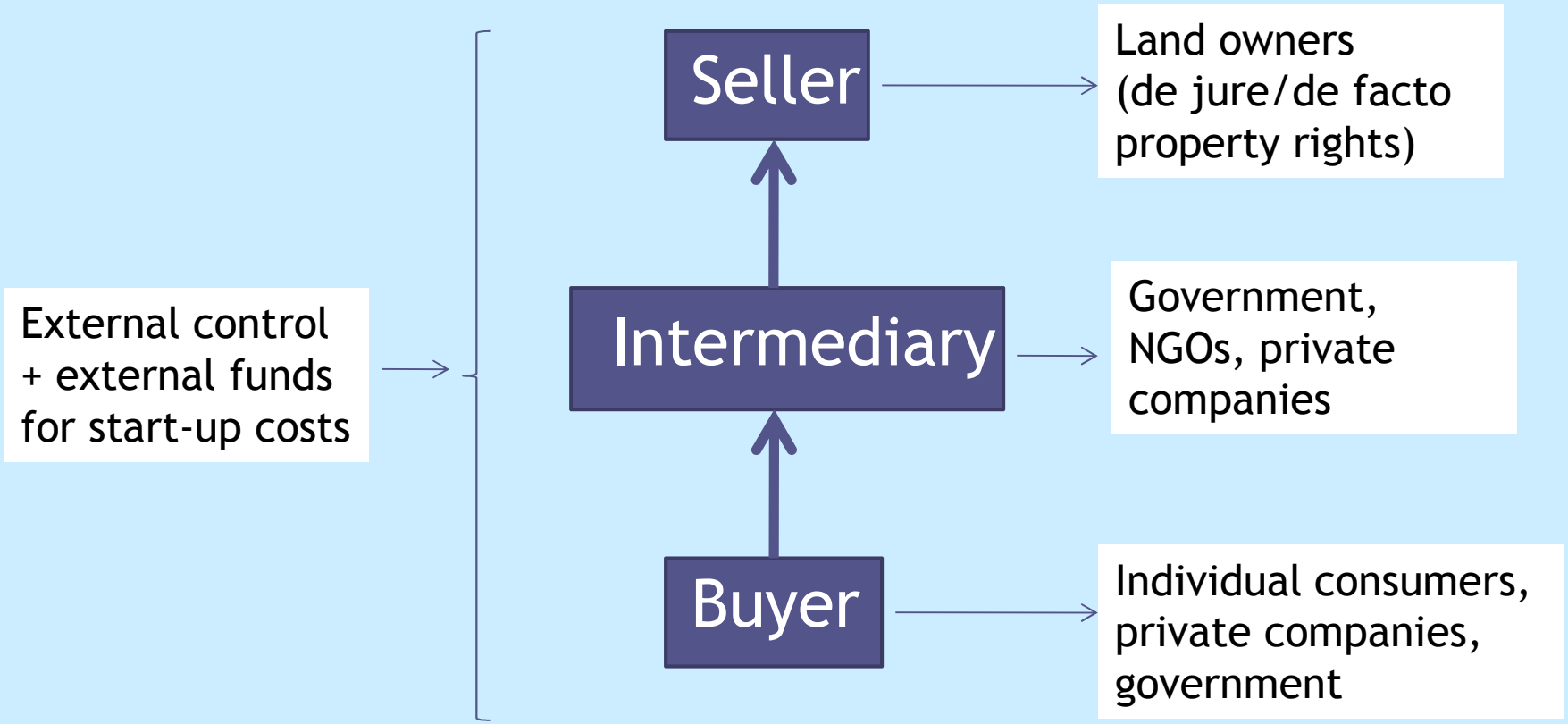
➢ PES can tip balance and make **conservation more privately profitable** with benefits for both private land user and society

Coase Theorem

Figure 1. Standard Presentation of the Coase Theorem



- Basic PES Scheme



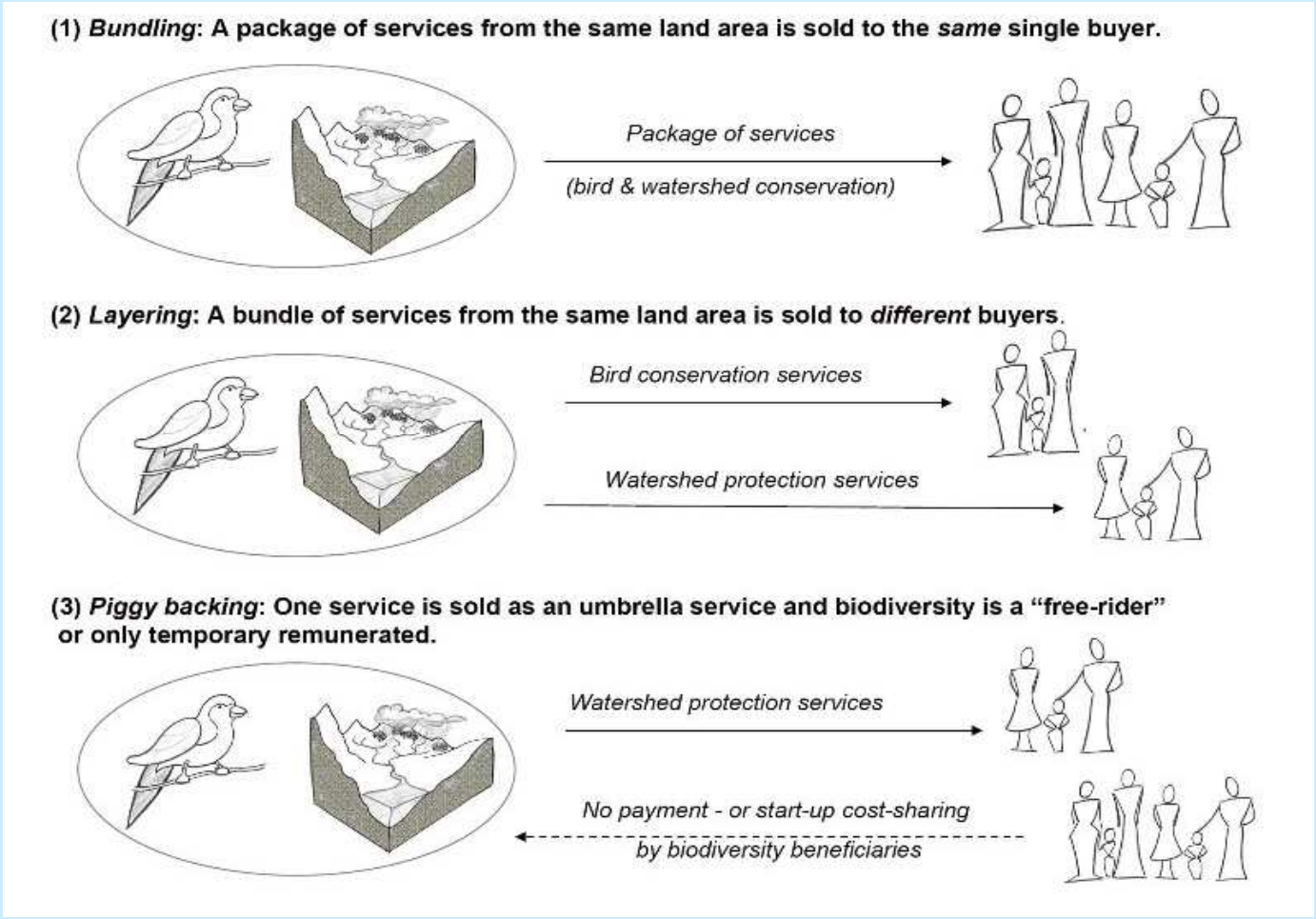

Carbon
Sequestration and
stocking


Watershed
Protection


Biodiversity
Conservation


Landscape
Preservation

Strategies for marketing biodiversity joint service provision



Source: Wunder and Wertz-Kanounnikoff 2009

Why PES?

- Increased Funding
- More targeted funding
- Possibility to earmark funding
- Transfer the costs of conservation to those who benefit from it
- Conditional funding

But...

- Polluter pays or polluter gets paid?
- Complexity...who pays...who sells?
- Uncertainty of ES

PIMAMPIRO (Ecuador)

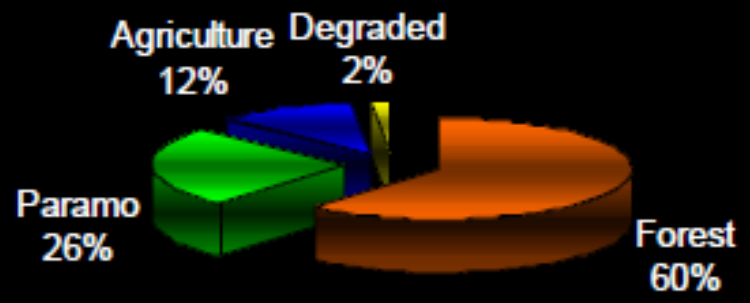
Pimapiro, Ecuador

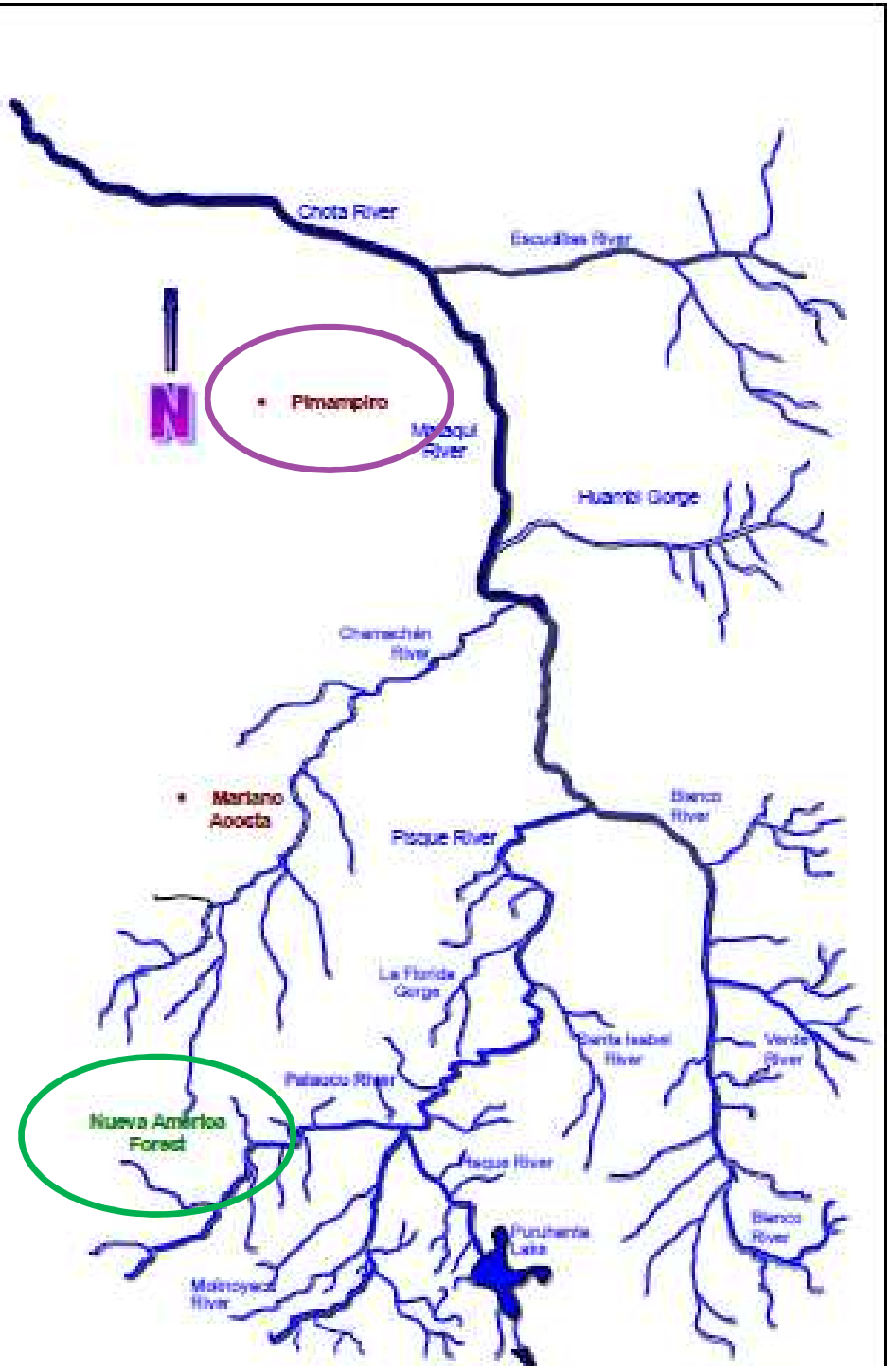
- Launched in 2002 as part of larger community forest management plan
- **PES scheme based on 20% increase** in **water use charges** in the town of Pimampiro
- Payments to upstream forest landowners located in area of municipal water intake pipe

- STAKEHOLDERS
  - **Supply**
    - Private landowners -20 families part of local farmer association, who own forest area located in watershed
    - Forest located in buffer zone of the Cayambe Coca Ecological Reserve
  - **Demand**
    - Local government representing 1,331 water users
  - **Facilitator**
    - Local NGO


Protected Area
Protected watershed
Cattle farm
Water collection point

Nueva America Forest





Payment mechanism

- **Fund created** to finance PES through **initial investment** of US$15,000, and 20% increase in **municipal water charges.**
- Contributions **are pooled** into fund specially created for PES by municipality
- Participant landowners agree to protect native vegetation
- To receive payment, each member **signs agreement** with municipality

- **Municipality collects** payments from users on monthly basis
- (average US$1.2 per family/month)
- payments to landowners made on quarterly basis
- **Payment** categories **vary according to condition of value of ecosystem** to protect:
- US$1.00/ ha/month for undisturbed páramo or primary forest
- US$0.75 ha/month for old secondary forest
- US$0.50 ha/month for new secondary forest

France (Private)

Mineral water Company

- Since 1993, PES programme in 5,100 hectare **catchment of Vittel** to maintain high **water quality**

- Farmers **paid** to adopt best **low-impact practices** in dairy farming (no agrochemicals; composting animal waste; reduced stocking rates)

- Programme combines **cash payments** with **technical assistance**, **reimbursement** of incremental labour costs and arrangements to take over lands

- Average payments are **EUR 200 hectare/year** (five year period) and up to **150,000 EUR/farm** to cover costs of new equipment.

- payments **adjusted** according to **opportunity costs** on a farm-by-farm basis.

- **Significantly cheaper** to pay for solution with farmers than to move the sourcing of water elsewhere

(Sources: Perrot-Maître 2006; Wunder and Wertz-Kanounnikoff 2009)

Conservation Banking

Definition Conservation Banking

"A market for the supply of biodiversity credits and demands for those credits to offset damage to biodiversity. Credits can be produced in advance of, and without ex-ante links to, the debits they compensate for and stored over time" (Ten Kate, 2004)

- Method of delivering biodiversity offsets
- Turning offsets into assets that can be traded
- Creating a market for compensation liabilities

Definition Biodiversity Offsets

"Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken"

- Conservation banking refers to concept that **markets can deliver 'offsets'** to those who need them

- 'conservation banking' covers '**habitat banking**', where particular habitat types are conserved, and '**species banking**', where purpose of compensation activity is to generate a gain in population of particular species

- The goal of biodiversity offsets is to achieve **no net loss and preferably net gain of biodiversity**

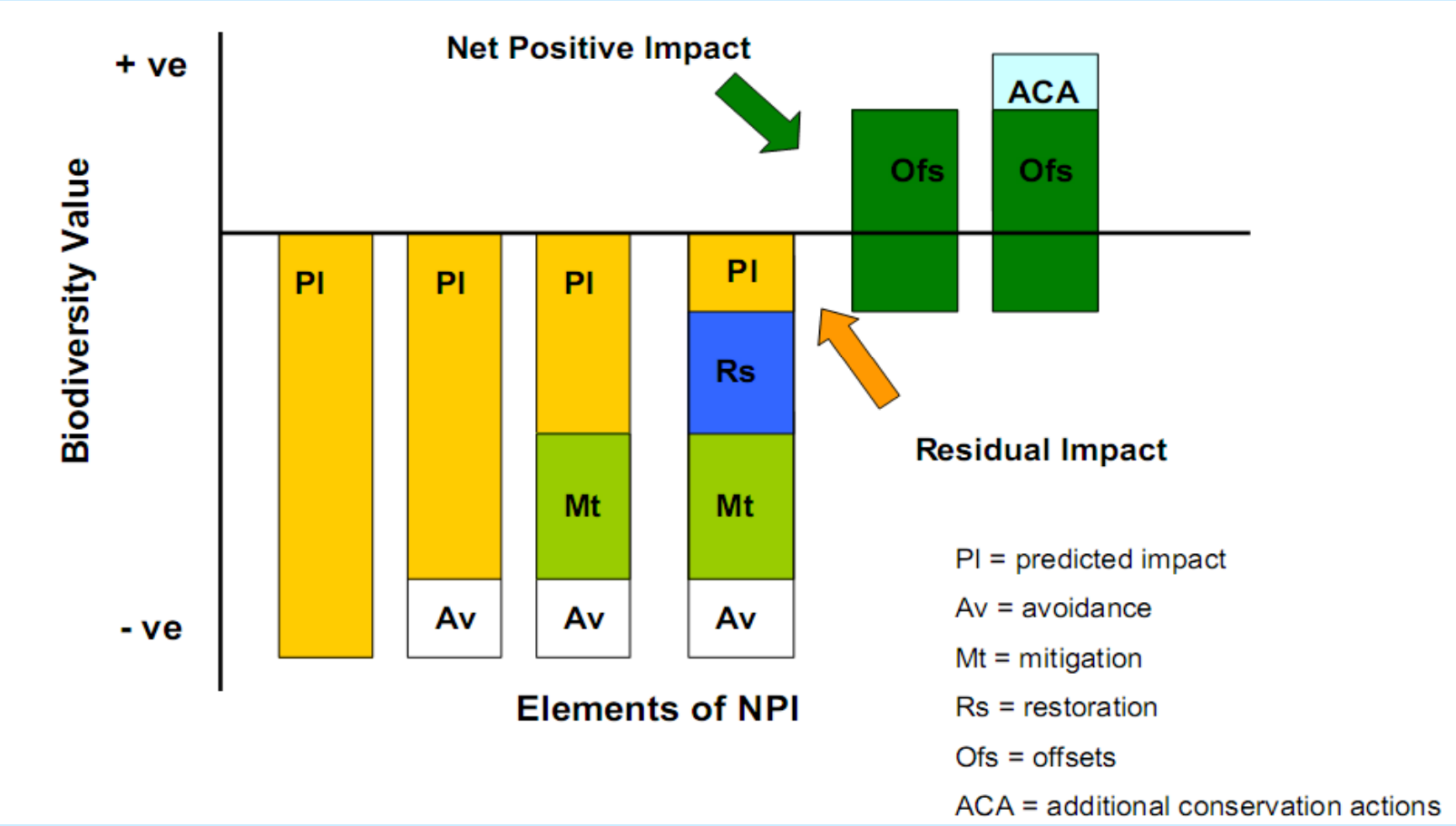
Actors

- **Demand**:
  - **Public Sector**: transportation agencies (highways, railroads, ports), cities and municipalities
  - **Private Sector**: real estate, extractive industries, and others

- **Supply:**
  - **Private Sector**: farmers, ranchers, conservation organizations, other landowners, and specialized banking companies
  - **Public sector**: Nature agencies, municipalities

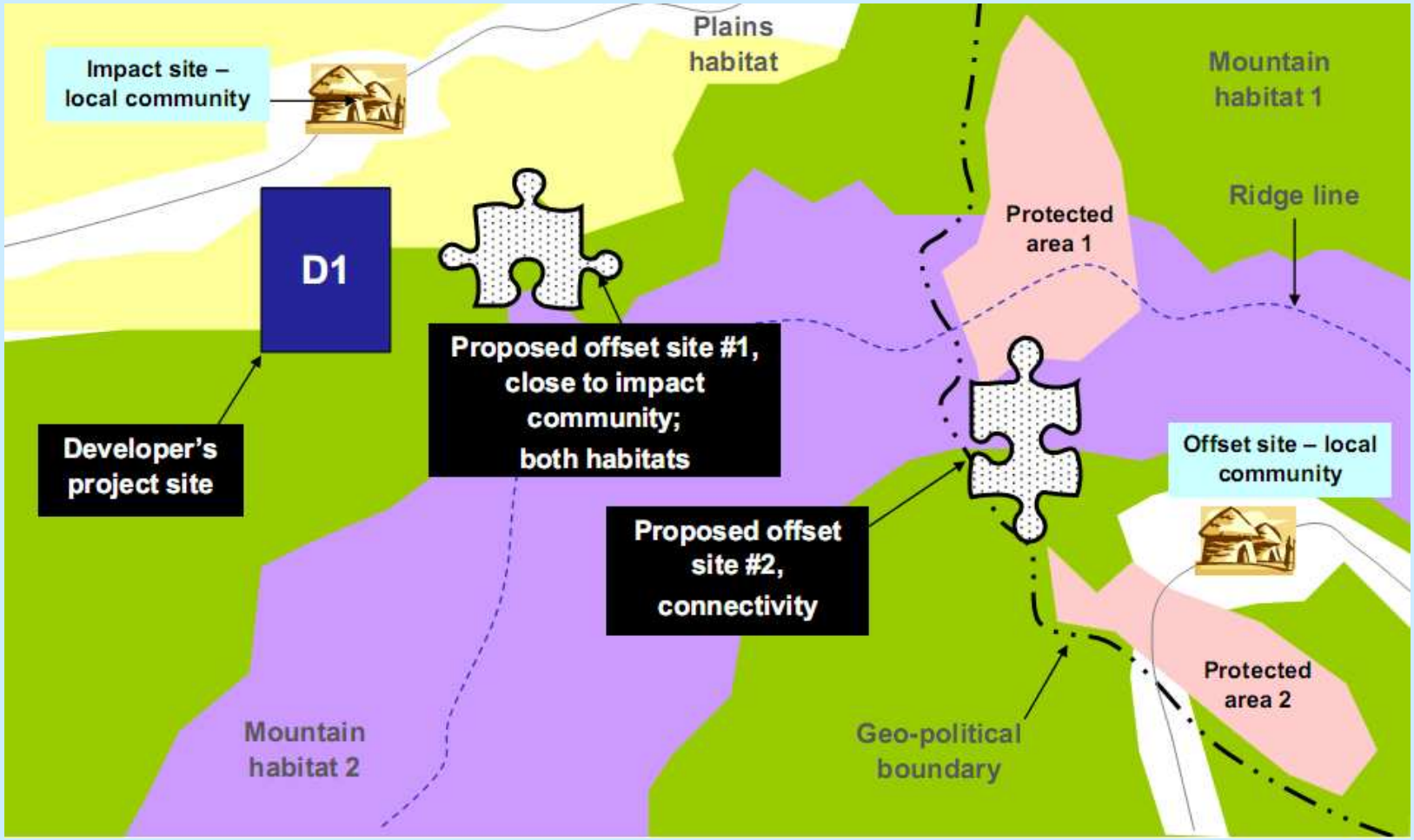
- **Regulators:**
  - State

The concept of “Net Positive Impact”

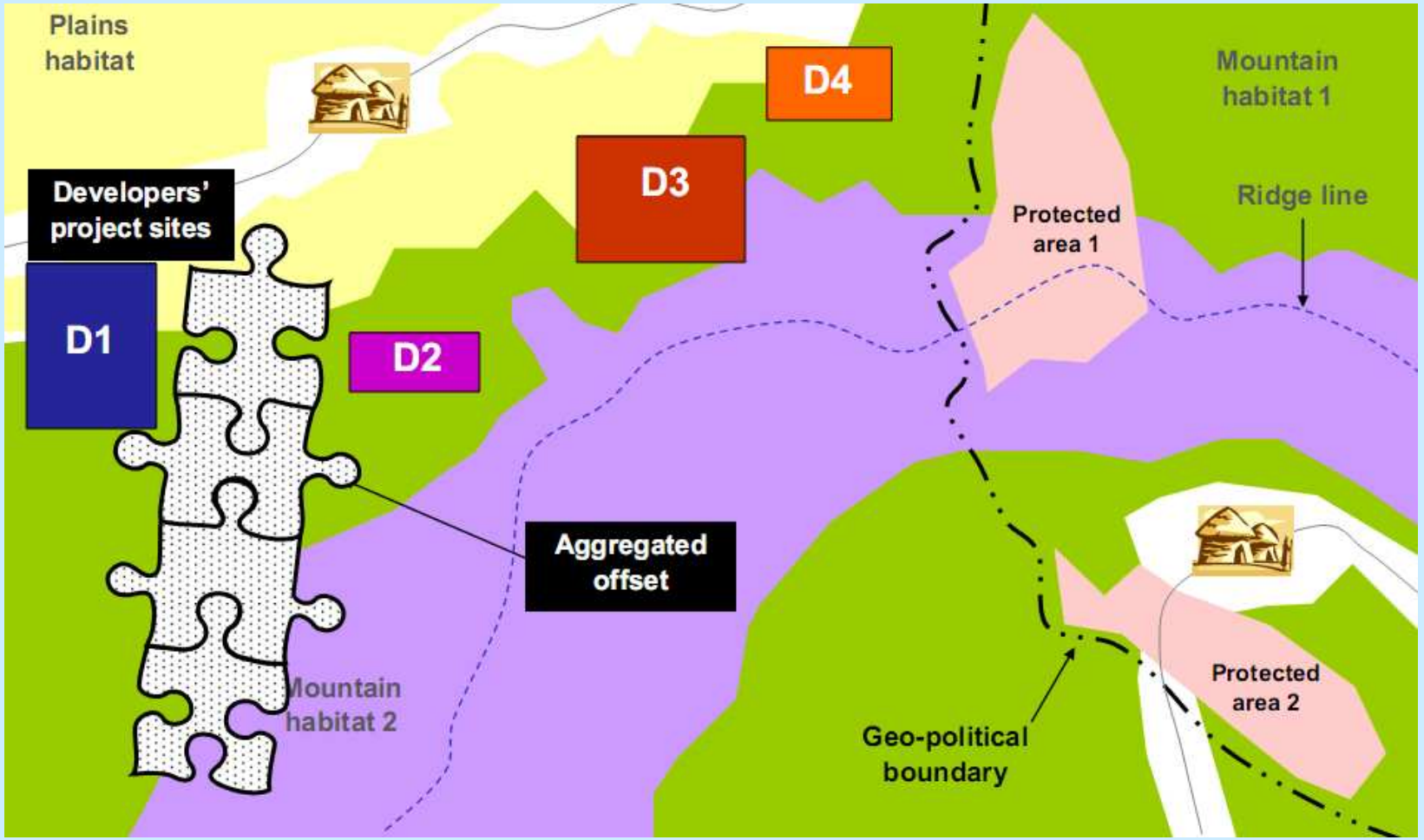


Source: Rio Tinto, 2008

Single developer, composite offset



Multiple developers Aggregated offset



Offsett Banking in the World

- Wetland Banking in the USA
- Australia (mining sector)
- The Ambatovy Project, Madagascar
- Akyem Gold Mining Project, Ghana
- Bainbridge Island, United States
- Potgietersrust Platinums Limited (PPRust), South Africa
- Strongman Mine, New Zealand

(Source, Rio Tinto, 2008)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Problems

- Areas of **unique and irreplaceable biodiversity value** →neither possible nor appropriate →proposed development projects carried out on sites with lower biodiversity value or not carried out at all
- Formulation of **offset legislation** needs to ensure compensation is appropriate
- **Time scale** of restoration
- **Monitoring**
- Much **gaps in knowledge** on biodiversity
- **License to destroy?**

Problems cont.

Development activities also have:

- Indirect impacts (e.g. increased traffic, cultivation, urban development etc.)
- Impacts on the marine environment
- Impacts on World Heritage values
- Impacts on the ecological 'character' of a place
- Impacts on biodiversity by contributing to climate change
- Impacts on cultural and heritage values

- Can offsets work for these impacts?

Last Exercise

- Can you think of examples of where you would implement these mechanisms in your countries or where they are already implemented?