



Investment in ecosystem services: *economic policy and financial innovation*

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UNESCAP

- UNESCAP – UN Economic and Social Commission for Asia and the Pacific
- one of five UN secretariat regional commissions
- Environment and Sustainable Development Division key focus –
 - “Green Growth”
 - synergize economic growth & environmental protection
 - develop more eco-efficient economies



Missed opportunities for greener growth

- **Free-riding** - cost of provision of environmental services not met by all beneficiaries
- **“Demanders” and “suppliers” not linked** in fiscal policy - Private sector investment in ES limited
- **Governments not ready to take advantage of growing resource flows** available through existing and future international carbon & biodiversity markets

Why are investments in FES critical in Asia ?

Rapidly growing economies

- Agricultural production - **2x** global rate
- In most countries, water use for agriculture/irrigation > **60%**
- Demand for water, gas and electricity > **2x** global rate
- Industrial production growth (A-P developing countries) – **1.7x** global rate
- Exports from developing countries – **2x** global rate

Unmet needs

- > **600** million without safe drinking water
- **1.9** billion without sanitation
- > **800** million without access to electricity



ES investment trends

- **Declining ODA** for “pure” environmental protection/conservation
- **Increasing ecosystem pressures** – competing land uses

Climate change will affect tropical countries disproportionately (IPCC 4th Assessment Report 2007)

- **Risk of reduced supply** of ecosystem services
- **Increased demand** for ecosystem services - e.g. flood mitigation, regulation of water flow, carbon sequestration



“An increase in forest cover is not a satisfactory indicator of return on investment – **we need to know what services are increased as a result**”

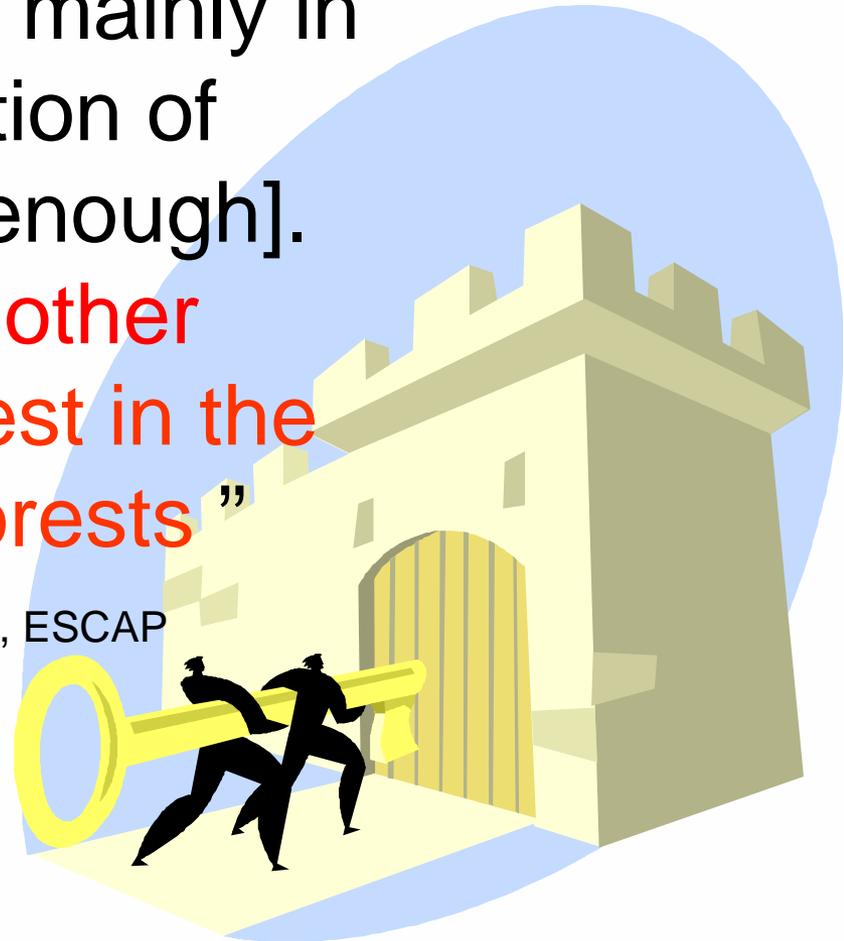


- Ministry of Finance official, ESCAP policymakers forum on investment in forest environmental services, Bangkok, May 2007



“ Governments invest mainly in the production function of forests [but it’s not enough].
We need help from other stakeholders to invest in the other functions of forests ”

- National Planning Commission official, ESCAP policymakers forum





Forest environmental services flow

Supply

- Rural communities
- Private landowners
- Local government bodies
- others w. land use rights

Sustainable Management

- Plantations
- Agro-forestry
- Protected natural forest
- Mixed-use forest

Demand

- Global economies/societies
- Hydropower util.
- Water util.
- Beverage co.
- H₂O users
- Agro-industry
- Ecotourism
- Agro-industry
- Rural communities
- Vulnerable Settlements
- Private sector

CO₂ sequestration

Soil erosion control
Aquifer recharge
Water flow regulation
Water quality

Biodiversity support
Scenic/landscape beauty

Flood mitigation
Coastal protection



Stakeholders in ES - investors

Traditional management (for timber)

- Private sector (plantations)
- Local governments
- Local communities

Management for env. services

- Ecotourism operators
- Local governments
- Water utilities
- Hydropower companies
- Water users
- Energy users
- Beverage producers
- Agro-industries
- Local communities



Investment concept

Basic PES

- Demanders/beneficiaries pays/rewards/compensates supplier of ecosystem service
- Supplier makes positive land use change, avoids negative use
- Demanders/beneficiaries (and others) reap the benefits of ES



Capturing the demand

- Mechanisms – special taxes, voluntary & mandatory payments, CSR action
- Fiscal policy to promote investment in ES from key economic sectors – e.g hydropower companies, water utilities
 - tax credits, subsidies
- Policy/legislative frameworks – recognizing specific ES in law
- Demanders/investors:
 - to secure specific ES (as in Costa Rica, Philippines)
 - may require evidence of ES flow
 - Investor confidence critical ...



Sharing the benefits

- Payments to individuals, communities, local governments
- Share benefits within communities
- Equity issues - vulnerable/marginal groups participation
- Poverty alleviation possible, should be maximized .. but the main goal should not be poverty alleviation
- Concept of “rewards” more acceptable in Asia
- Formal land use rights as a reward - ICRAF/RUPES



... & securing the supply

- Institutional frameworks –government support for monitoring ES, biophysical study,
- Negotiation/establishment of ES supply arrangements
- Enforcement/mediation of ES supply arrangements

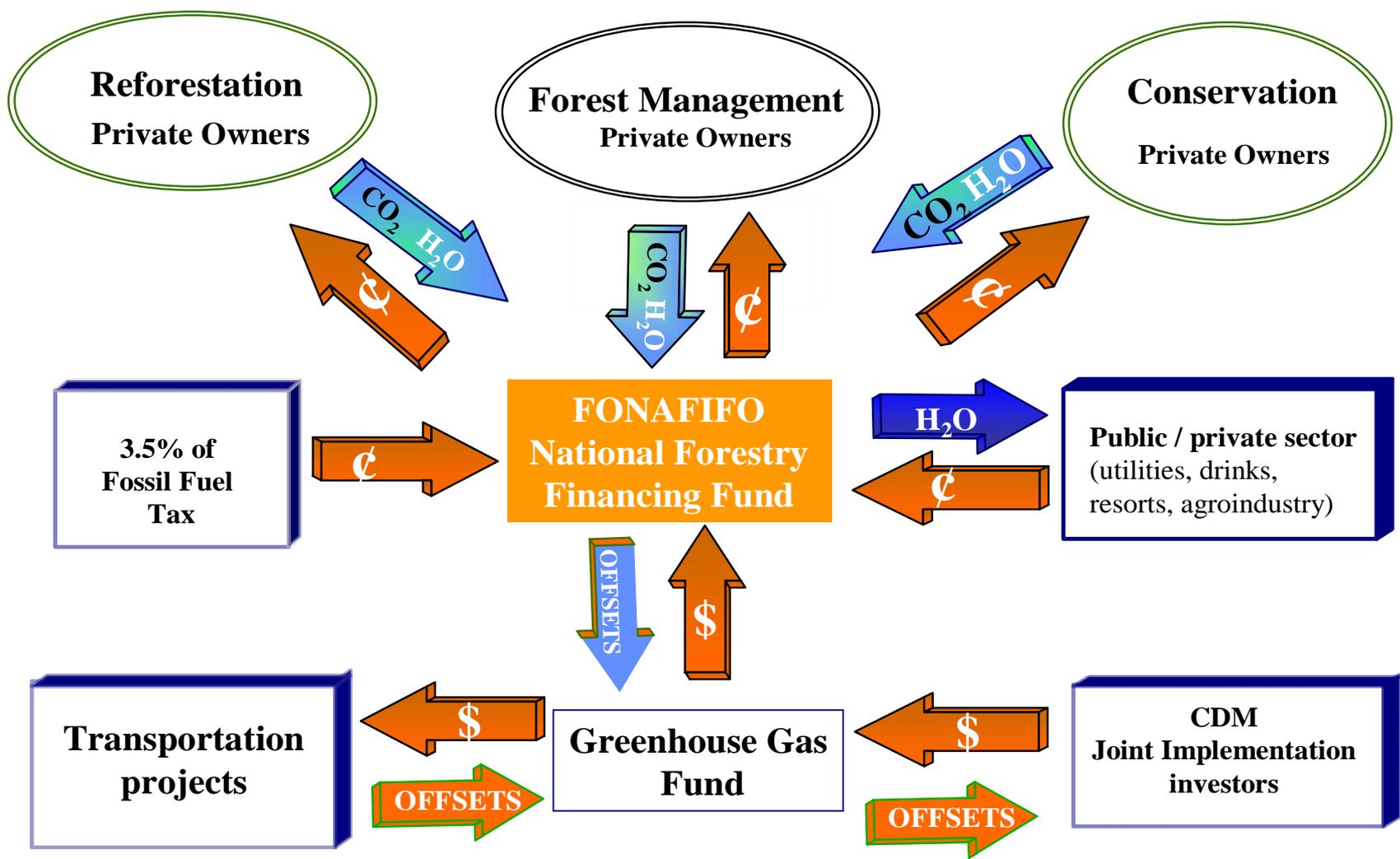


Payments for environmental services in reality

- National PES schemes – Costa Rica, Mexico, China
- Other related experiences in other parts of the Americas, Europe
- Asia
 - **Some watershed-level schemes –see work of ICRAF/RUPES, international NGOs, Japan, Republic of Korea, Indonesia, Philippines**
 - **increasing interest and action for more institutionalized approach (esp. Viet Nam, Indonesia, Philippines, Nepal)**



Costa Rica national PES scheme



Costa Rica FESP programme

– private sector participation

- Private sector and water/hydropower utilities participate via special contracts or purchase of certificates of environmental services (CES/CSA)
- CES – tax deductible, confers right to use logo
- Total payments from 2003-2007 – over US\$7 million, over US\$5 million from four entities
- Private sector can specify areas for protection
- Overlap of payments for high opportunity cost areas
- Loans to private entities from FONAFIFO – Article 46 of Forestry Law No. 7575 – FONAFIFO to finance the processes of forestry, reforestation, forestry nurseries, agroforestry systems, recovery of deforested areas and the technological changes for the use and industrialization of forestry resources for the benefit of small and medium producers, through credit and other mechanisms that promote the management of forests
- Investments/donations received online

Tourists finance forest protection

- Agreement between CR tourism agencies and FONAFIFO
- Tourists pay for carbon sequestration service
- 2 months - \$200,000 (via hotels and airlines), 625 ha protected for 5 years



Local governments and ES

- Local governments must be enabled to compensate each other for ES provided
- Philippines
 - LGUs can give loans and grants to each other (can facilitate inter-LGUs agreements re: ES)
 - LGUs empowered to charge user fees
- China – compensation fund facilitates inter- LGU agreements



Republic of Korea

- Deteriorating water quality since 1960s ;
- End of pipe investments (sewage treatment facilities – US\$29 billion by 2005) unable to meet demand for clean water
- 1998-2001: Comprehensive Water Quality Mngt Measures - Huan River, Nakdong River, Kum River and Youngsan River
 - agreement between upstream & downstream residents
 - riparian buffer zone - government land purchases & forest conservation measures on private lands in upstream basin
 - Financing: additional water use fee (110-113 won/ton) paid by downstream residents
 - 2004: **Total Maximum Daily Load Mngt System**, as additional complementary measure



Governments and PES in Asia

- **PES is just one instrument** not substitute for good land use planning, law enforcement etc.
- **How to get private sector to pay ?** – already pay various taxes, reluctance to pay new obligations
- **Goal ?** – poverty alleviation or securing ES ? – different communications from different proponents
- **How to ensure sharing of benefits ?** – in Philippines, hydropower companies pay to special fund but fund difficult to access
- **Governance ?** – how to avoid corruption, misuse of funds for political purposes and marginalization of vulnerable groups?



“the cross-sectoral support to the economy provided by forests is a powerful argument for increased investment in forests, **which should be better used by line ministries to justify their budget requests**”



- Ministry of Finance official, ESCAP policymakers forum on investment in forest environmental services, Bangkok, May 2007

New challenges in the forestry sector

- Action to secure ES must support national development plans
- PES policy should be conceived within a wider environmental finance strategy, not on its own (L. Gámez, ESCAP Policymakers Forum)



New challenges in the forestry sector

- Changing role - managers of forests for FES & NTFPs, in addition to timber
- Take advantage of, and develop synergies between NTFP and FES provision
- More urgent need to develop a clear idea of what constitutes sustainable use and legislate (possible ?)
- Promote clear understanding of which land uses and forest types secure which ES – to maximise investment return from forest protection and management

for more information

- ESCAP policymakers forum report and presentations –

http://www.unescap.org/esd/environment/services/meeting/2007_05_28/

