

Payments for Ecosystem Services and their Institutional Dimensions

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Institutional performance of Payments for Environmental Services: An analysis of the Costa Rican Program

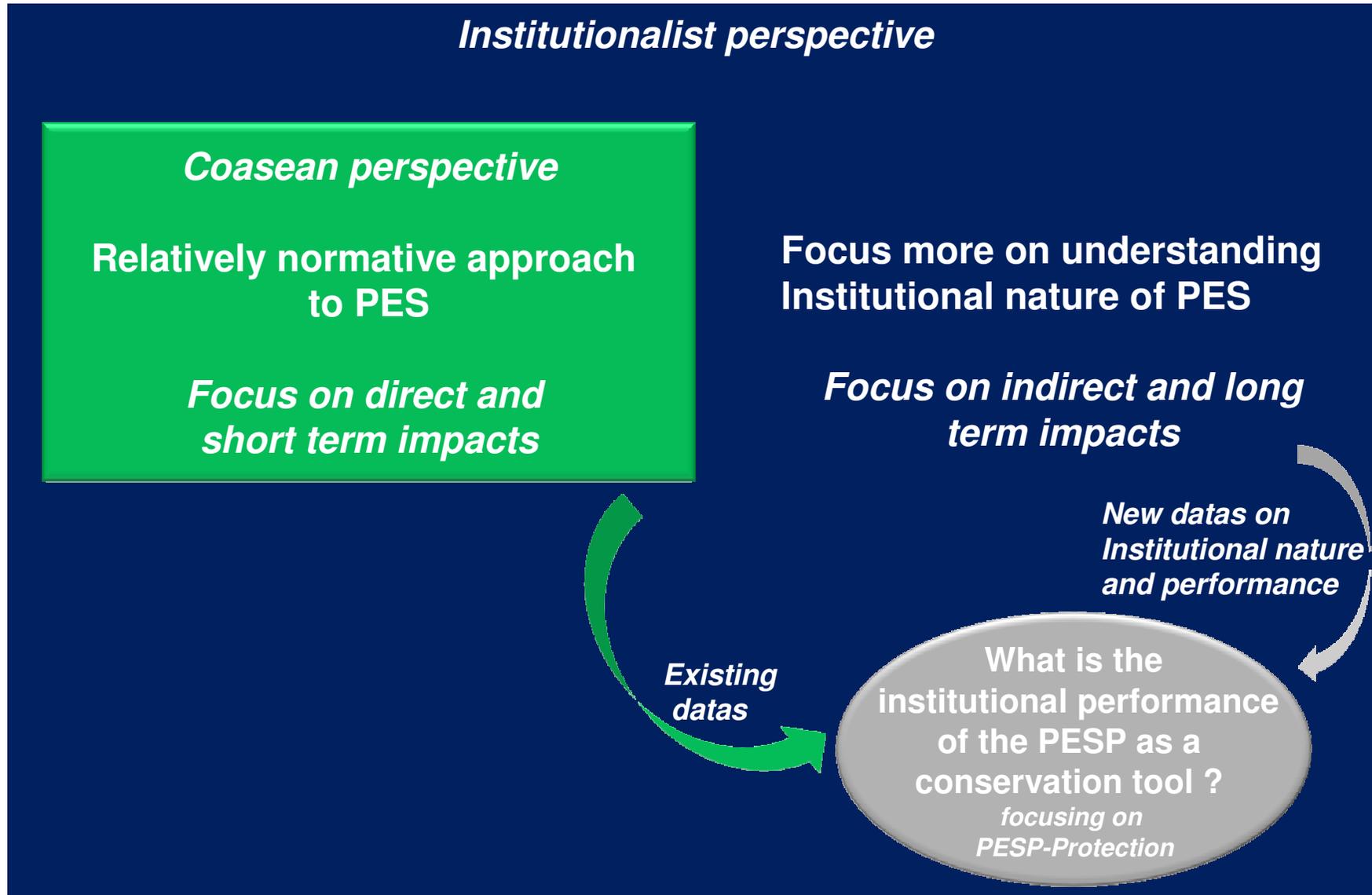
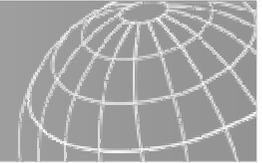
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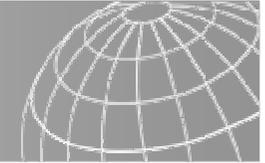
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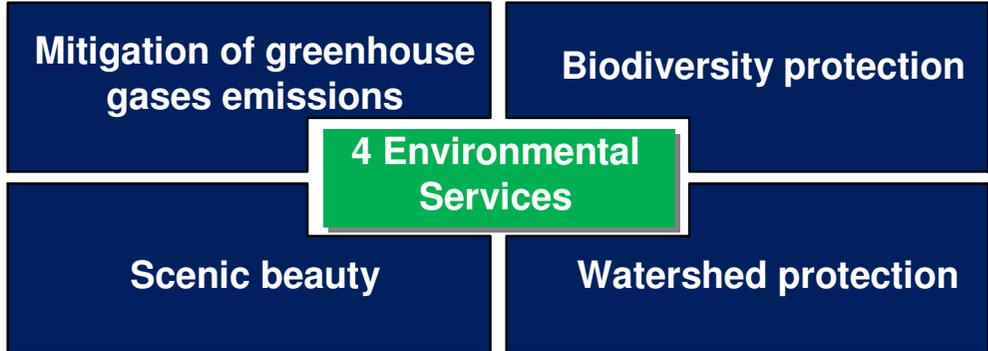
The Costa Rican Payment for Environmental Services Program (PESP)



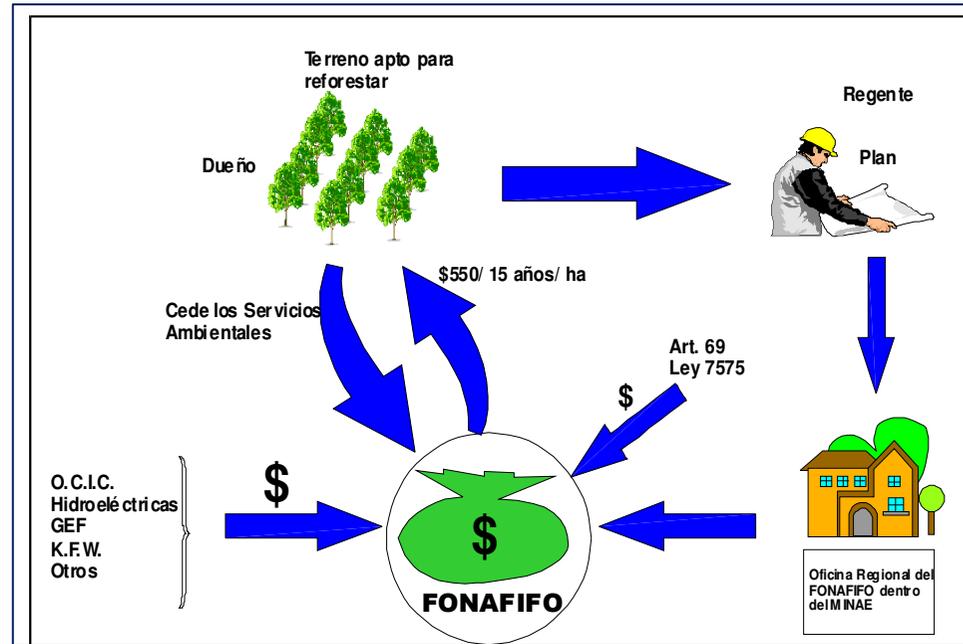
Modalities have been changing from time to time

Some 90 % of the area covered by the program

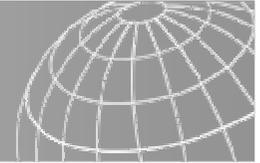
- **PESP-Protection** (since 1997)
- **PESP-Reforestation** (since 1997)
- **PESP-Forest management** (from 1997 until 2002)
- **PESP – Tree Plantation in Agroforestry System** (Since 2003)
- **PESP – Natural Regeneration** (since 2006)

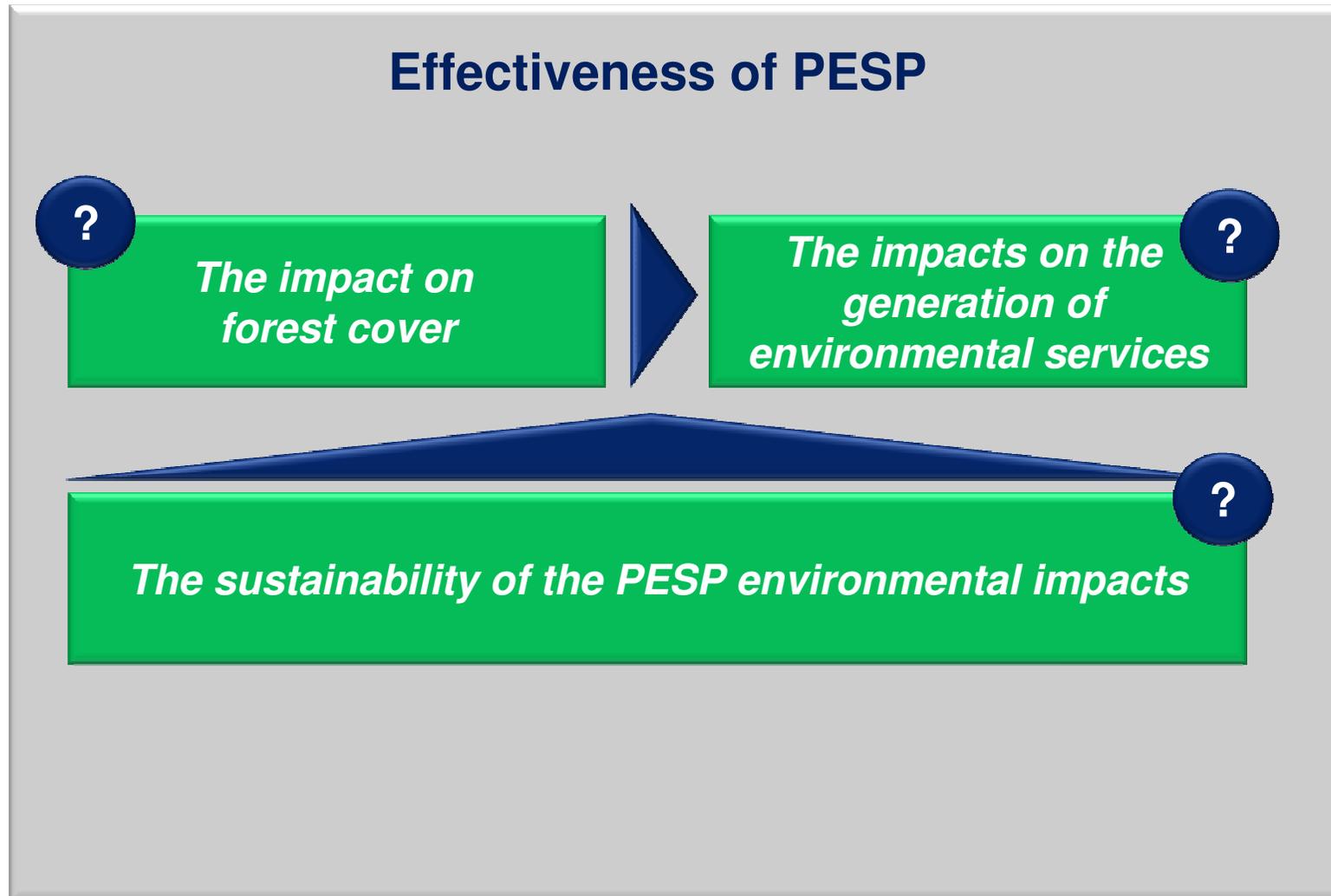
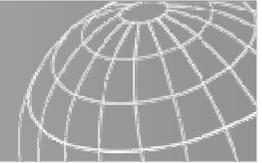


From 1997 to 2008, 8 345 contracts of PES have covered 670 000 ha of forest, that is to say some 13% of the national territory. 175 millions USD have been channeled from 197 to 2008 through the program

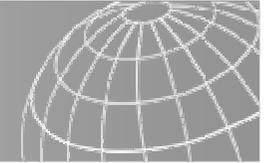


Assessing the efficiency of PESP in brief





The impact on forest cover



From 1997 to 2005 forest cover went up from 42% of the national territory to 48%.



Difficult to isolate the effects of PESP of those induced by others environmental policies and of the economic context (Pagiola, 2008)

- The prohibition of deforestation for which it can be considered as a compensation
- The protected areas system (Sanchez-Azofeifa, 2007),
- The fall of the profitability of livestock farming (White and al. 2001, Arroyo-Mora and al. 2005 quoted by Pagiola 2008)
- The development of ecotourism (Rojas and Aylward, 2003)
- The increase in emigration (Kull and al. 2007)
- The trend of increasing forest cover dates from the early 1990s (Wunder, 2007).
- Institutional reform
- Ban of perverse incentives (cf. tenure)

Indirect impact

The beneficiaries seem to have implemented the agreed (forest) land uses on the whole

The PESP is likely to be little “additional” although it is controverted

- Many beneficiaries of the PESP say that they would have protected the forest if the PESP-Protection did not exist (Miranda and al 2003; Ortiz and al. 2003)
- Formal tests give mixed results
 - From none (Sierra and Russman, 2006) or less than 1% (Pfaff et al., 2008a) to 2% (Robalino et al., 2008), between 11% and 17% (Arriagada et al., 2010) and 56% (Tattenbach et al., 2007).
- Additionality seems to have globally increased overtime (Robalino et al., 2008, 2011)
- It must have been higher than for the other main conservation tool: the protected areas network, (0,2% per year; Pfaff et al., 2008b)



Additionality has never been mentioned as an objective of the program (Pagiola, 2008).

The impacts on the generation of environmental services

No measures available on ES generated by the program

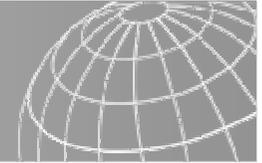
Indirect estimations through the analysis of the characteristics of the PESP areas of intervention

Hydrological services	Biodiversity protection	Carbon maintained	Scenic beauty
<ul style="list-style-type: none">In more than 65% of the cases according to Tattenbach et al. (2007) focused on the areas where few hydrological services were likely to be generated	<ul style="list-style-type: none">2/3 of the PESP areas are priority areas for biodiversity conservation	<ul style="list-style-type: none">The areas involved in the PESP seem to correspond to the diversity of the Costa-Rican forests which store on the whole an important amount of carbon (Contraloria General, 2011)	<ul style="list-style-type: none">No study has been carried out
weak	fair	good	?

The actual ES generation depends on the additionality of the program. 

However, this performance does not result from an efficient targeting of the program, as until recently almost all land can qualify to the program, and there is no real prioritization process (Contraloria General, 2011)

The sustainability of the PESP environmental impacts



How sustainable is the financing of the PESP ?

- The PESP has been a very effective tool for raising funds for environmental conservation
- Dependency on public spending (tax on fossil fuels, loans...)
- Little funding yet for companies beneficiating of Hydrological Services (2,6% of funds)
- Little sale on the carbon market but some expectancies especially through a national cap-and-trade system and REDD+

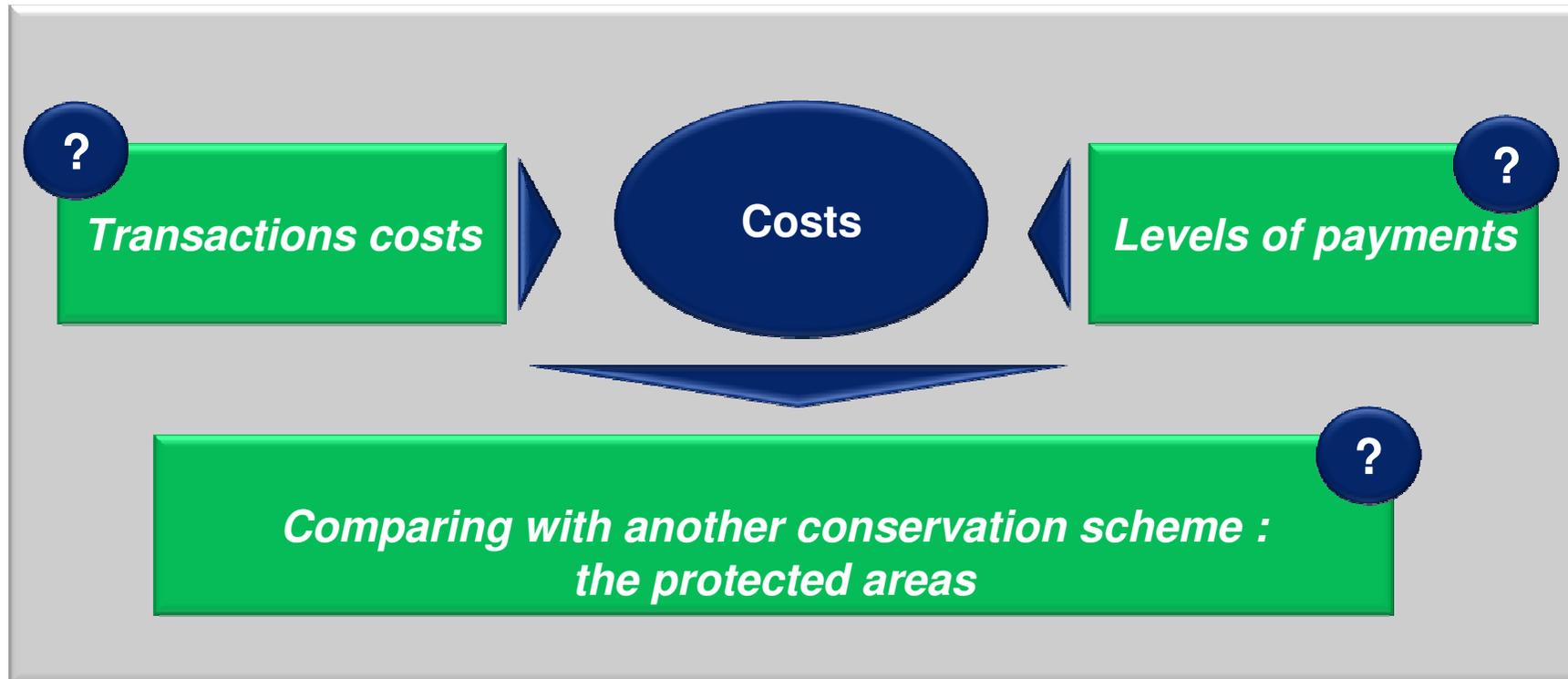
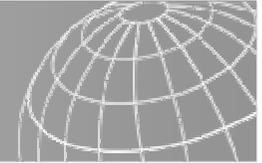
What impacts on social norms and values regarding forest conservation ?

- Changes in the perception of forest ecosystems have been noticed by several studies (Locatelli and al. 2007, Ortiz and al. 2003)
- Environmental education sometimes associated.
- Danger of the utilitaristic logic

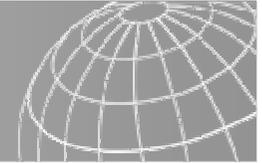
To what extent the PESP strengthens or not the effectiveness of the institutional framework for forest protection ?

- a major institutional innovation, modernizing forest governance
- Role in prohibition of deforestation
- Take advantage of future potential opportunities of financing for ES provisions such as REDD+.
- Role in building public support for a green economy through sharing of the benefits of conservation
- But lack of strategic planning of the PESP and inefficient cooperation between SINAC and Fonafifo
- No support to the development of sustainable forest management

Assessing the costs of PESP



Assessing the transaction costs of PESP



Transactions costs



Costs of access of participants

- 12 to 25% of payments (Miranda and al. 2003, Baltodano 2000 quoted by Locatelli and al. 2007)

Fonafifo's administrative costs

- Originally limited to 5% (1996) and 7% (2003) of the PESP budget
- The institutional transformation of FONAFIFO into a classic public institution made its costs boom since 2008 to reach 12% of the budget in 2010

Design of the program

?



The PESP transaction costs thus appear regular when compared to others conservation schemes



Assessing the levels of payments of PESP

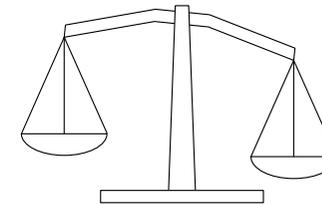


Prices in 1997 for the whole contract duration

- PESP-Protection : 227 USD (5 years)
- PESP-Reforestation : 545 USD (8 years)
- PESP-Forest management : 365 USD (5 years)

Prices raised in 2005 and 2009 due to political pressure and search for better social impacts

Demand exceeds the funds available :
3 times higher

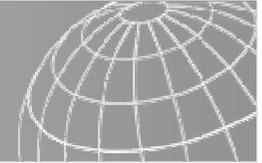


Funds Demand

Potential for lowering prices

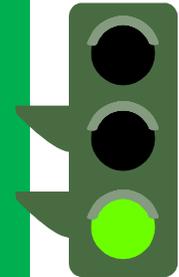


The comparison with another conservation scheme : the protected areas



According to Sage (2000), the protection cost over 30 years of the forest resources through the PESP is largely lower (from 1,4 to 3,2 times less expensive depending on the hypothesis set) than the traditional system of land buying by the state and protection through a national park.

Confirmed by Hartshorn and al. (2005) : 3 to 4 times more efficient.

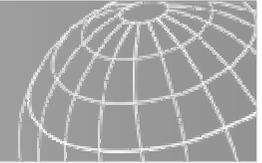


Others problems for land buying for protected areas



- Lack of available funds
- More possibility of appeal

The potential for improvement



A potential for improvement on the short run...

Reduction of Fonafifo's administrative costs

Better targeting and differentiated payments could multiply by 2 the effectiveness of the program (case of the Nicoya Peninsula, Wunscher and al. 2008)

Some challenges to this approach : administrative, technical but above all political ones



Misunderstanding of the role of the payment in the PESP (reinforce good environmental stewardship, not change behaviours on the short run; Kosoy and al. 2007 ; Corbera and al. 2009)

... which may reveal itself counterproductive on the long run

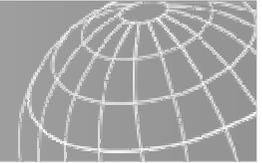
Impacts on social norms, and values and on the legitimacy of the PESP 

Differentiation of payments can lead to:

- **Lower valuation of environment,**
- **Lower intrinsic motivation** (Deci, Koestner, and Ryan 1999; hayman and Ariely, both quoted by Wunder 2005)
- **Opposition to the egalitarian principle,** pillar of the PESP legitimacy (Pascual and al. 2009)

Better targeting to areas most threatened by deforestation (search for addionality) can create perverse incentives (Wunder 2005 and 2004, Pagiola and al. 2004), oppose the initial principle of the PESP (non search for addionality) and undermine the political legitimacy and will to enforce the prohibition of deforestation.

A safer way : the improvement of management and governance of the PESP



- The quality of the management of the PESP by FONAFIFO and SINAC has been judged little satisfactory by the Costa Rican institution in charge of assessing the way public funds are used (Contraloria General, 2011)
 - Lack of strategic planning
 - Lack of monitoring, reporting and evaluation
 - Lack of coordination between SINAC and FONAFIFO
 - System of quota by areas and modalities not efficient
 - Information System non performing

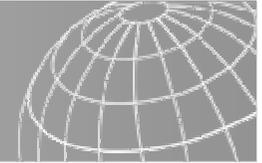


**Room for improving
management and governance**



Means to improve PESP impacts can be from outside the PESP (example : sustainable development projects to go along with PES)

Conclusion



Need to consider long term impacts (social norms and values, legitimacy) taking into account the institutional nature of the PESP

Wunder (2005), « *a PES scheme needs to strike some balance between short-term efficiency and fairness, the latter influencing longrun conservation viability* »

The focus PESP to reduce deforestation should not deter the State from improving the enforcement of the forest law that prohibits deforestation

Situation and technology have evolved since 1997