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Adaptation of Forest Landscape to Environmental Changes

Payments for Forest Environmental and Social Services: organisational models and related experiences in Italy

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Background 1

Forestry in Italy at the dawn of the new millennium:

- Facing strong competition from international timber markets
- Confronting fragmentation of forest estates and therefore of domestic timber supply



Background 2

- Coping with increasing internal demand for new goods and services
- Dealing with a new concept of forest resources, seen as part of the cultural heritage of the country
 - = a much wider number of stakeholders need to be involved in the forest-issues decision making



Background 3

- **New policy tools are needed:**
 - based on a different approach than command and control
 - soft and participative
 - sustainable – environmentally/socially/economically
 - effective in maintaining forest multifunctionality
 - able to pay for forest management costs

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Payment for Environmental (and Social) Services - PES



Research questions

- Are PES such a tool ?
- Is there any experience in Italy on this ? Which ? To what extent ?
- What can we learn from the international experience/literature?
- Are PES really an opportunity for the Italian forest entrepreneurs/landowners ?
- Can PES contribute towards creating links with tourism/recreation and forestry ?



What are PES: definitions 1


- **International context (mainly developing countries):**

PES: one environmental service being sold in a market, in a voluntary transaction, bought by at least one consumer, sold at least by one producer, conditional to the continuity of the supply in time (Wunder, 2005)

Environmental or *ecosystem* service ? (e.g. Katoomba group, 2008)

Include:

 - C-sequestration
 - influence on water regimes
 - landscape beauty
 - biodiversity
 - bundled services



What are PES: definitions 2

- **European/Italian context :**
Environmental-recreational services
(Merlo, 2000; Mantau et al., 2001)

More focus on recreation as part of environmental services

→ appropriate for a multifunctional forest where all services are intimately linked with each other



What are PES: classification

Types of market-based payments and examples for water services (Perrot-Maitre & Davis, 2001)

- **Voluntary Contractual Arrangements**

= direct negotiations between water users and landowners

→ La Esperanza hydropower producer pays the NGO Monteverde Conservation League for maintaining existing forest cover in the upper catchments - Costa Rica

- **Trading Schemes**

= trade of "credits" between companies and landowners for exceeding the requirements on water use or pollution limits

→ The Tam-Pamlico Trading Program in USA

- **Public Payment Schemes**

= direct payments to farmers/forest owners for management practices that protect water quality

→ Council Regulation 1698/2005 for Rural Development 2007-2013 (Axis 2)

A classification for the Italian context

	Voluntary Schemes	Compliant-based Schemes	Government-mediated Schemes
Main driving forces	Profit (business) Public Relation strategy, Corporate Social Responsibility (CSR)	Governmental laws/regulations	Public authority role in providing environmental - ecosystem services (with no or limited market) to the community
Main payment mechanism	Service's suppliers (forest owners or managers) directly paid by service's end-users for forest management specifically oriented to provide the service (ex. recreation).	Service's suppliers (forest owners or managers) indirectly paid by service's end-users for maintaining the forest functions (ex. NWFPs collection).	Service's suppliers (landowners) indirectly paid by public authorities (responsible towards the general public => end-users) for forest management specifically oriented to provide the service (ex. quality of water).
Main instrument	Contractual agreements, tickets to access the recreational area.	Property rights regulations by selling picking permits	water tariff paid by water end-users + public funds allocation policies
Case-Studies in Italy	Adventure Parks (SFM certification, env. Education, ...)	Mushrooms Collection for recreation (C offset)	Water Supply (Agro-env. Payments)

Based on: Johnson et al. 2001; The Katoomba Group, 2008; Wunder et al. 2008

Case-studies analysis: a general description

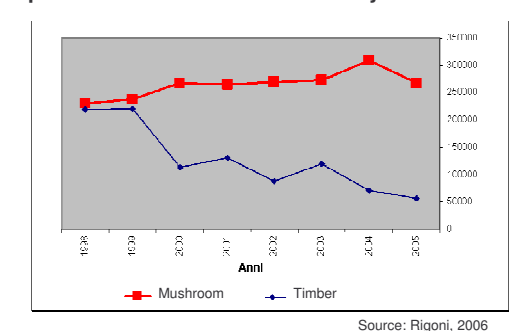
	Adventure Parks	Mushrooms Collection activity	Water Supply
Forest service	Recreation	Recreation and NWFPs production	Maintenance of water quality and water cycle regulation
Where in Italy?	About 65 APs, mainly in mountain areas of interest for tourism	Almost in all the Italian Mountain Communities	In Piedmont and Emilia-Romagna Regions
Legal framework	Property rights regulations, Safety laws	Regional forest laws/mushrooms collection regulations	National and regional laws (L. 36/94; Piedmont: LR 17/97, LR 16/99, DGR 38-8849/2008; Emilia-Romagna).
Payment mechanism and instruments			
Forest owners or managers	Private or public entrepreneurs	Mountain Community, Municipality, <i>Regole</i>	Mountain Communities
Paid by whom?	Visitors/tourists	Visitors/tourists	Watershed authorities (ATOs)
For what?	Accessing/using the Adventure Park's facilities	Getting the right to collect wild mushrooms in forests	Reducing soil erosion and other hydro-geological risks
By means of	Tickets selling	Picking permits selling	Regional funds + ATO funds (3-8% of water tariff)

Case-studies analysis: market aspects

	Adventure Parks	Mushrooms Collection	Water Supply
Market drivers	Opportunity for business based on an increasing demand for recreation in forests	Demands for recreation and specialty goods	Water supply water to citizens.
Market size estimation	Niche, but increasing (summer tourism)	Medium	Very large
... on the basis of some proxi	Initial investment for 10-13,000 visitors/year: 250,000 € Average ticket price: 10€ Payback period = 4 yrs	€ 675,000/year in 2006 in Borgotaro Consortium, with picking permit prices of €6-15 (1 day) or €67-150 (6 months) € 260-300,000/year in 2004 and 2005 in Asiago municipality	All the water basin end-users (families, factories, farms, etc.) (ex. Piedmont region: 4.2 M of inhabitants).
Level of maturity and market structure	Low: total innovation (first APs in Valle d'Aosta, in 2001), new market under development.	High: long tradition in Italy, well-consolidated experiences (ex. Fungo di Borgotaro Consortium)	Low in practice: 2 cases High in theory: legal framework established at national level Preparatory to create a new (voluntary) market?

(Sources: Rigoni, 2006; Pettenella et al. 2008; Loreggian, 2008; Regione Piemonte, 2008)

One meaningful example: comparing revenues from timber sales and mushroom picking permits in a mountain area of Italy 1998-2005



Source: Rigoni, 2006

Conclusions - 1

	Adventure Parks	Mushrooms Collection	Water Supply
Efficacy in income generation	High: forest area, specifically managed for recreation by a well-identified entrepreneur.	Varying from very high to low - depending on regional laws (ex. Veneto: 70% of income from mushrooms has to be re-invested in forests) and local expertise (ex. Borgotaro Consortium).	Varying from high to limited (ex. in Emilia-Romagna, at least 50% of the water tariff must be used for forest management activities; in Piedmont: not clearly identification of such a %).
Efficiency	High: limited transaction costs (forest concession agreements), short payback periods)	In general, high transaction costs Efficiency might vary from rather high (territorial marketing, forest associations) to rather low (single, small forest ownerships).	Very high transaction costs: efficiency seems to be limited => incomplete legal framework (ex. in Piedmont, total investment needed: in 2007 34 M €/year, 50% covered through water tariff => problems in regularly providing regional funds
Equity in benefits distribution	Low involvement of local community	Potentially high (forest associations, territorial marketing initiatives)	Unequal distribution of the funds from water tariff (concentrated in highly populated urban areas).

Conclusions 2

- **Size of market varies largely**
Niche/medium for recreational products, large for water services
- **Markets are at different level of maturity**
 - Recreational products: good market stability, low risks, but allocation of property rights sometime problematic
 - Water: pilot experiences, but developing new opportunities for private actors
- **Involvement of local communities is very variable**
 - Capacity building, shared objectives



Opportunities ?

- **High potential, provided that (but general rules!):**
 - There is entrepreneurial attitude and possibility of capacity building
 - Cause-effect relationships have been fully clarified (different scales of problems need different approaches)
 - Synergies are possible with other services/products. e.g. specialty goods, links with other products and services of the territory
 - Transaction costs are minimised
- Are accompanied by other policy tools such as information, communication, green marketing

