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Payment for ecosystem services: problems and perspectives of forest activities in Western Europe

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Contents
- Introduction: background context
- New tools for income generation:
  - Government mediated schemes
  - Voluntary contractual agreements
- Conclusions

1. Introduction:
   short term crises and long-term structural changes in the wood market

Sub-prime financial crises in USA

→ immediate and relevant effects on the wood market

Chapter 1
United States forest products market crash impacts UNECE region:
Overview of forest products markets and policies, 2007-2008³
Global Softwood Sawnwood Consumption


Real prices (€/cm) of standing wood from conifer highforests in the Italian Alps (Asiago 1957-2005)

Source: Ciotti (2006)

1955: value of 1 cm = costs of 141 hours of forest worker
2005: = 5.3 (-96%)

Innovation in Sweden

Source: Skogforsk, 2008

Average productivity of workers in wood harvesting activities (1950-2007: +5%/yr)

Source: Skogforsk, 2008
A clear trend: concentration of forest products supply

<table>
<thead>
<tr>
<th>% on the total industrial wood</th>
<th>2000</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary forests</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>Secondary forests irregularly managed</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Secondary forests regularly managed</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Plantations with native species</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>Plantations with exotic species</td>
<td>10</td>
<td>50</td>
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</tbody>
</table>

Source: Sedjo, 2001 – FAO study

Within 2050, 75% of the total supply of industrial timber will come from plantations (50% p. with exotic species)

... on the contrary: income deriving from timber sales and mushrooms picking permit sales in Asiago Municipality (North-east Italian Alps)

Timber sales
Sales of permits

Source: Rigoni, 2006

Till the recent past
Optimization of timber production, under some constraints of env. protection
Command and control polices
Forest abandonment (policy failures)

In the future
New markets potentials
Development of local entrepreneurship
Voluntary tools
PES definitions

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

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

A. Public Payment Schemes: direct payments to forest owners for management practices that protect water quality (EC Regulation 1698/2005 for Rural Development 2007-2013)

B. Government-mediated schemes:
- Payments for the water catchment areas
- C offset (“regulated” institutional market)
- Property rights regulation for NWFP&S

C. Voluntary contractual arrangements between private agents:
- Drinkable water supply
- C offset (voluntary market)
- Certification and labeling → premium price or stable market share

B. Government-mediated schemes

- Payments for drinkable water provision
- C offset (“regulated” C credit market)
- Property rights regulation for NWFPs
National Frame Law on Water provision in Italy

Law 36/1994 establishing the right by the Regions to define a fixed compensation (till 6% of the water tariff paid by final consumers) for the management cost of the water catchment areas.

The law has been applied in two Regions (Piedmont and Emilia Romagna)

The “regulated” Carbon credit market

3 “mechanisms”:

- Clean Development Mechanism (CDM): forest investments in LDCs
- Joint Implementation (JI)
- Emission Trading (ET) → in EU = ETS (ETS Scheme): forest and farm activities have been excluded (Dir. 87/2003)

Two Carbon credits markets

NWFPs property rights regulations
notizia del 22/11/2004
Barberino di Mugello. (Firenze).
Tartufo bianco battuto all'asta per 52mila euro, nuovo record
Se l'è aggiudicato un ristorante di Londra che era in competizione con uno di
I proventi della vendita andranno in beneficenza
Un tubero bianco toscano da 852 grammi è stato venduto per 52mila dollari, re
La corsa al rialzo è stata entusiasmante, con il collegamento via satellite con il
L'asta ha avuto il patrocinio della Regione Toscana, dell'Unione Toscane

NWFPs: a relevant (annual) source of income

NWFPs = imago products for a territory (“Territorial marketing”)
- Environmentally friendly products
- Strong link with local culture and traditions
- New “Slow food” culture

Chestnut: networking

Törggelen Holidays South Tyrol (target: retired German-speaking persons):
- roasted chestnut +
- nuts +
- new wine (“vino novello”) +
- speck

Adoption of a chestnut

Fonte: Wiesinger, 2009

C. Voluntary contractual arrangements between private agents (normally innovative services)
- Drinkable water supply
- C offset (voluntary market)
- Certification and labeling → premium price or stable market share
- Many other innovative investments

Mineral water Vittel (Vosges, North-east France)

Agreements (30 yrs) with land owners to reduce the use of Nitrogen fertilizers and to respect best management practices
25 M € payment by Vittel:
1) 200 €/ha/yr to the land owners as compensation of mised income
2) Technical assistance (free of charge)
3) Other financial incentives for structural investments by land owners

Development of forestry investments for carbon markets in the voluntary market

Positive aspects:
- active role of civil society
- the flexibility of the investments (avoided deforestation – REDD projects)
- the leading position played by the forest sector
- setting the stage for future developments in the regulated markets
Supply = economic actors able to offer quota from their C offset investments

Demand = economic actors willing to buy quota from C offset investments
CCX is a structured and closely monitored cap-and-trade system that organizations join voluntarily.

Outside of CCX, one finds a wide range of voluntary transactions that are not driven by an emissions cap, and do not, for the most part, trade on a formal exchange. This mass of transactions is referred as the over-the-counter (OTC) market.

Because this OTC market transacts on a highly fragmented deal-by-deal basis, it is extremely difficult for stakeholders to both track and navigate.

**VERs**

VERs (Verified Emission Reductions).

1 t CO₂ = 1 VER.

Largest VERs market: Chicago Climate Exchange (CCX).

1 VER = 5 $ (3.2 €)

(1 ETS = 35 $; 22.1 €)

http://www.chicagoclimatex.com/market/data/summary.jsf

http://www.chicagoclimatex.com/
Problems

For forest C offset investments there are some serious problems related to:

- Non-permanence
- Baseline and C sinks monitoring, verification
- Leakage
- Additionality
  (moreover: problem of scale – large project have less transaction costs)

Certification and labelling

Advantages: product differentiation (= stable market share) & premium price (?)

Private innovative initiatives:

Forest adventure parks

www.jungleadventure.it / www.sellaneveaparco.it
Canopy forests for bird watching and other env. education activities

percorsi aerei di osservazione naturalistica o per attività sportive


Art exhibitions in the forest

Arte Sella (www.artesella.it)
100,000 visitors/year

Forest Concerts

Concerti di musica classica, etnica, jazz, ecc. in Trentino, Veneto,…

www.isuonidelledolomiti.it

Educational centers, forest schools, thematic amusement parks

Holzpark in Austria (apertura nel 2007, 6.000 visitatori)

Fonte: Wiesinger, 2009
In the '50s in DK Mrs Flautau organizes the first "Wood Kindergarten" 15 in CH. First experience also in Italy - Povo www.asiloneelbosco.it
3. Conclusions
• **Size of market varies largely**
  - Niche/medium for recreational products, large for water services
  - Synergies are possible with other services/products, e.g. specialty goods, links with other products and services of the territory

• **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

• **High potential, provided that (but general rules!):**
  - There is an entrepreneurial attitude (other policy tools are needed such as information, financing, …)
  - Cause-effect relationships have been fully clarified (different scales of problems need different approaches).
  - New inventory and silvicultural treatments to optimize services supply are available (e.g. NWFPs)
  - Form forest management plans at single management unit to meso-scale planning
  - Transaction costs are minimised

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There is the need for changing the rules and re-distributing the responsibilities of SFM