



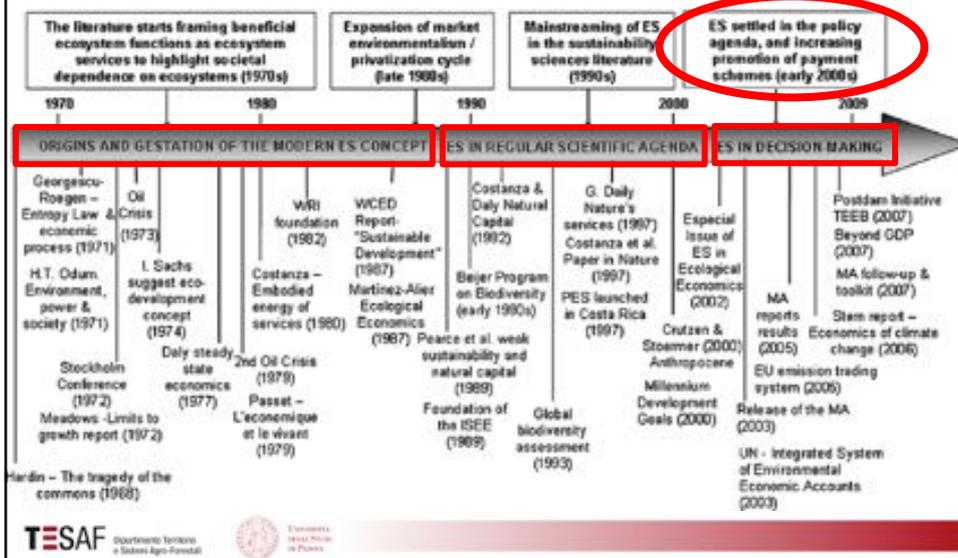
ALPES project meeting
 VIU - San Servolo, Venice
 14 November 2017

Payment for Environmental Services: a new tool or only a new discourse?

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 TESAF Department
 University of Padova (Italy)



Stages in the modern history of ecosystem services (Gómez-Baggethun *et al.*, 2010)



A long list of policy statements

- **4th Ministerial Conference on the Protection of Forests in Europe** (Vienna, Austria, 28–30 April 2003)
- **Statement of the Ministerial Meeting on forests** (Rome, Italy, 14 March 2005)
- **UN Commission on Sustainable Development, 13th Session on water, sanitation and human settlements** (New York, 30 April 2004 and 11–22 April 2005)
- **9th Meeting of the conference of the contracting parties to the convention on wetlands** (Kampala, Uganda, 8–15 November 2005) **Resolution IX.3: Engagement of the Ramsar Convention on Wetlands in ongoing multilateral processes dealing with water**
- **International Tropical Timber Agreement** (Geneva, Switzerland, 27 January 2006)

TESAF

Department for
International Forestry



European
Forest Policy

2. Le policies

3. Aspettativi

4. Conclusioni

- **6th SESSION OF THE UNITED NATIONS FORUM ON FORESTS**
(27 May 2005 and 1324 February 2006)
- **8th ORDINARY MEETING OF THE CONFERENCE OF THE PARTIES TO THE CONVENTION ON WETLANDS**
(Curitiba, Brazil, 20–31 March 2006) -

Payments for Environmental Services:
a Way Forward
for Mediterranean
Forests?

November 27, 2012, 16:00-18:30 | European Parliament, Brussels
Room AGO

- Unique science-policy dialogue
- Payments for Environmental Services (PES) in context of the CAP and the new EU Forest Strategy
- Discuss the potential of PES to address specific problems of Mediterranean forests (e.g. forest fires, profitability of forestry, etc)

In collaboration with MEPs
Kriton Anagnostis, S&D
Ramon Tremosa, ALDE

FACILITATED BY EUROPEAN FOREST INSTITUTE

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TO REGISTER: [illegible]

Fifth Ministerial Conference on the Protection of Forests in Europe
5-7 November, 2007, Warsaw

FORESTS FOR QUALITY OF LIFE

WARSAW RESOLUTIONS
Forests and Water

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2. Le policies

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PES and ES markets at global scale

www.ecosystemmarketplace.com

Markets for ES: global view

Source: Ecosystem Marketplace, 2017

About 900 Million USD forest carbon finance commitments
25 Billion USD on payments for green infrastructure for water and watersheds
2 to 3 Billion USD in biodiversity projects and markets

In many cases **ES are bundled**, i.e. multiple services are offered together or combined in a single credit

Outline

- Background: the need for new tools in (environmental) policies
- PES and EU policies
- Barriers and challenges for PES development
- Final remarks

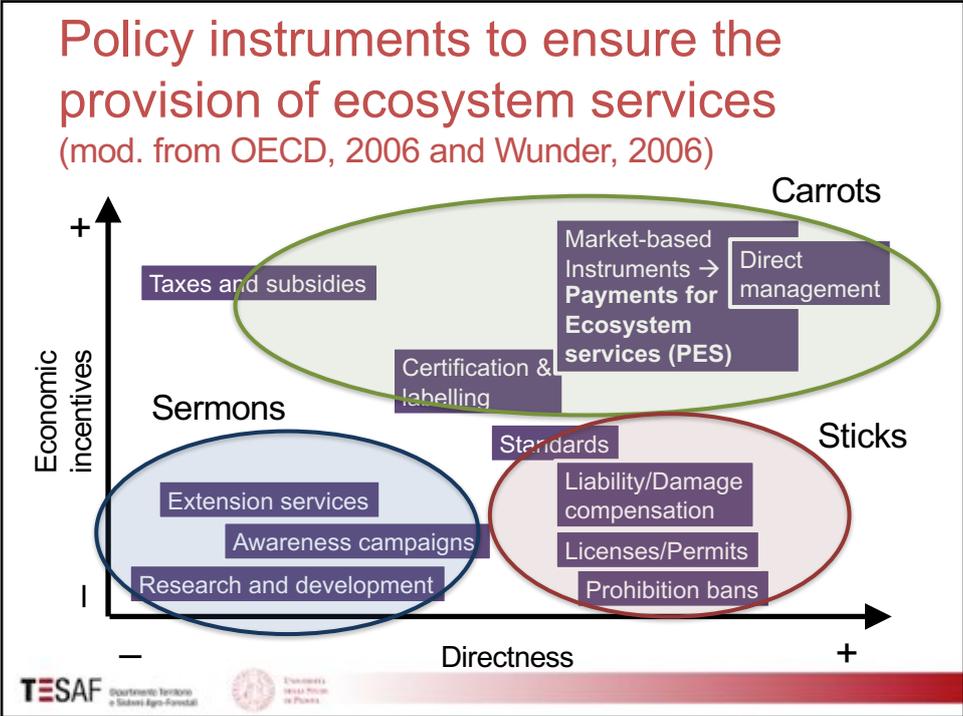
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Policy instruments to ensure provision of ecosystem services (mod. from OECD, 2006)

<p>Sticks = Command and Control</p>	<ul style="list-style-type: none"> • Prohibition bans • Licenses/Permits • Compulsory Standards (e.g. environmental,
<p>Carrots = Incentives</p> <p style="text-align: center;"><i>Market-based instruments (MBIs)</i></p>	<div style="background-color: #f00; color: white; padding: 5px; margin-bottom: 5px;"> <p>A "light" State Direct involvement of private stkhlds Solutions more tailored to the real problems</p> </div> <ul style="list-style-type: none"> • Payments for environmental services (PES) and quasi-PES • Direct markets • Tradable permits • Auctions • Ecolabeling/Certification...
<p>Sermons = Information</p>	<ul style="list-style-type: none"> • Awareness campaigns • Extension services • Information disclosure • Research and development...



PES: definition

No official definition, but many un-official definitions over time: Wunder (2005 and 2015), Tacconi (2012), Sommerville *et al.* (2009), Porras *et al.* (2008, 2012), van Noordwijk *et al.* (2007), Swallow *et al.* (2009), Shelley (2011), Karsenty (2011), Muradian *et al.* (2010), Engel (2015)...

A PES is... (Wunder, 2005):

1. a **voluntary transaction** in which
2. a **well defined ES** (or a land use likely to secure that service)
3. is **“bought”** by a (minimum of one) **buyer**
4. from a (minimum of one) **provider**
5. if and only if the provider continuously secures the provision of the service (**conditionality**)

A “classic” example Vittel Mineral Water (Vosges, France)

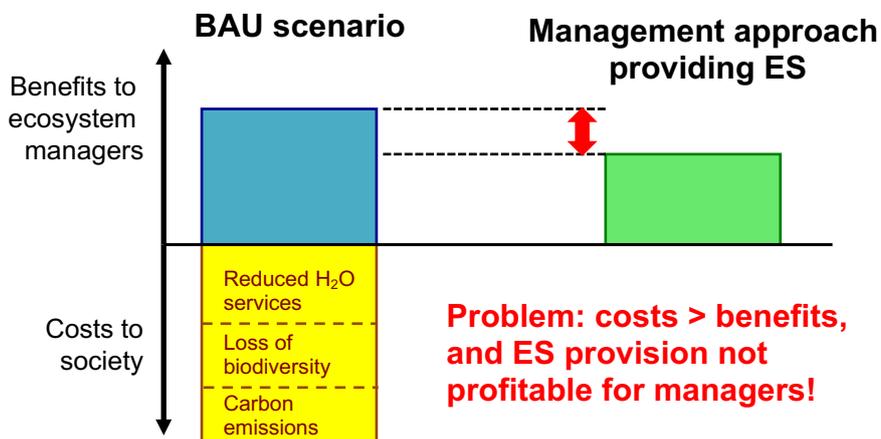
30-year long contracts with all farmers within the watershed area to reduce the use of nitrates and enhance agriculture and forestry practices:



- **1 700 ha** converted from corn to set-aside or other crops
- **92%** of the area under some protection form
- About **200 €/ha/yr.** compensation to farmers for missed revenues
- About **25 M €** invested by Vittel in the first 7 years (i.e. **1.52 €/m³** of bottled water)... **10-year long negotiation process!**

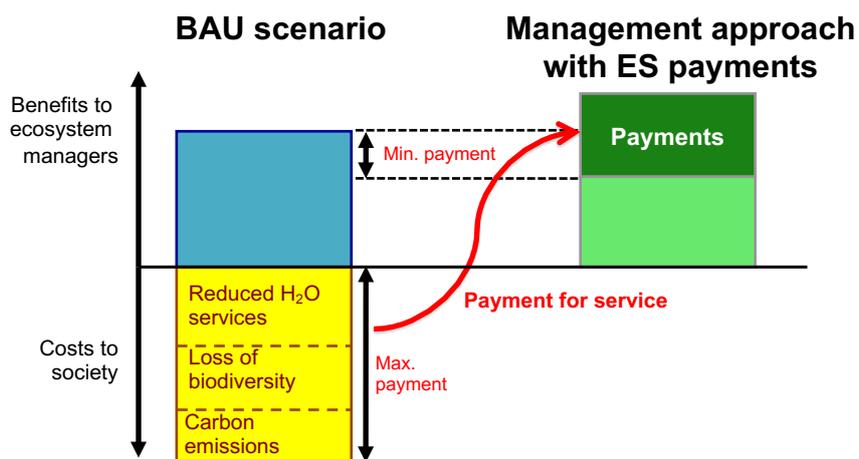
→ Similar initiative by Coca Cola in Southern Portugal: 17€/ha to FSC certified forests hosting and managing water-filtration areas

PES: the rationale (2/3)



Source: Engel, Pagiola & Wunder, 2008

PES: the rationale (3/3)

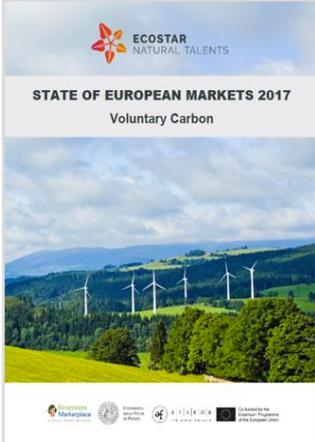
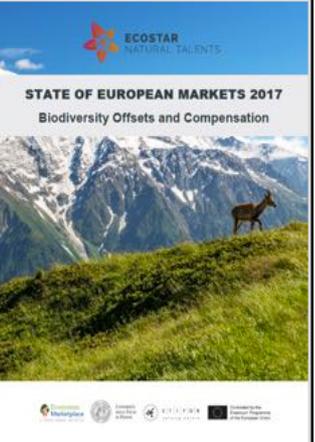


Source: Engel, Pagiola & Wunder, 2008

Some PES pre-conditions

- **Conditionality** → service providers are to receive payments **only when** their efforts to produce detectable changes reflect in the quality/quantity of the service
- **Additionality** → payment should yield environmental benefits that **would have not have been occurred** without it
- **Permanence** → is the scheme able to be **self-sustained**? How long will it remain in place after public funding is finished?
- **Leakage** → avoidance/management of **indirect negative effects** and trade-offs occurring on the same ecosystem service or on the same ecosystem providing the service

PES and ES markets in Europe

 <p>ECOSTAR NATURAL TALENTS</p> <p>STATE OF EUROPEAN MARKETS 2017 Voluntary Carbon</p>	 <p>ECOSTAR NATURAL TALENTS</p> <p>STATE OF EUROPEAN MARKETS 2017 Watershed Investments</p>	 <p>ECOSTAR NATURAL TALENTS</p> <p>STATE OF EUROPEAN MARKETS 2017 Biodiversity Offsets and Compensation</p>
<p>www.ecostarhub.com</p> <p>www.ecosystemmarketplace.com</p>		
<p>TESAF Dipartimento Territorio e Sistemi Agro-Forestali</p> <p>Università degli Studi di Padova</p>		

Markets for ES: Europe

Source: Etifor & Ecosystem Marketplace, 2017

16.1 MtCO₂e, from renewable energy and forestry projects offsets by EU org. (2015)
In EU: 4.4M Euro (forest projects)

5.7 Billion Euro on payments for watershed protection in EU (2015)
 (mostly public finance)

62.7 Million Euro in biodiversity offsets and compensation projects in EU (2011-2015)

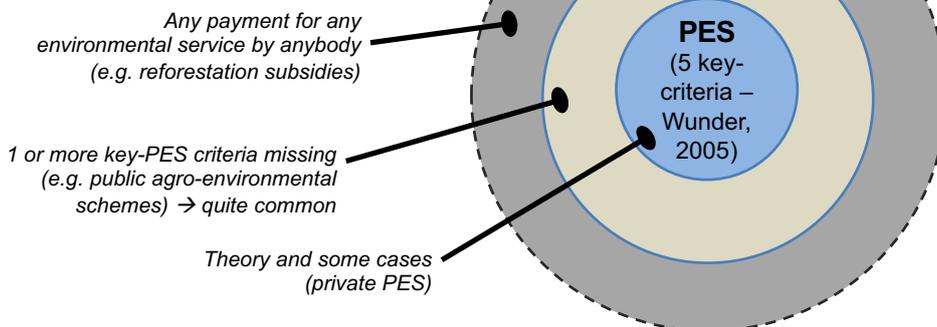


www.ecostarhub.com
www.ecosystemmarketplace.com



PES, quasi-PES and other incentives

- Are the 5 key-PES criteria always met?

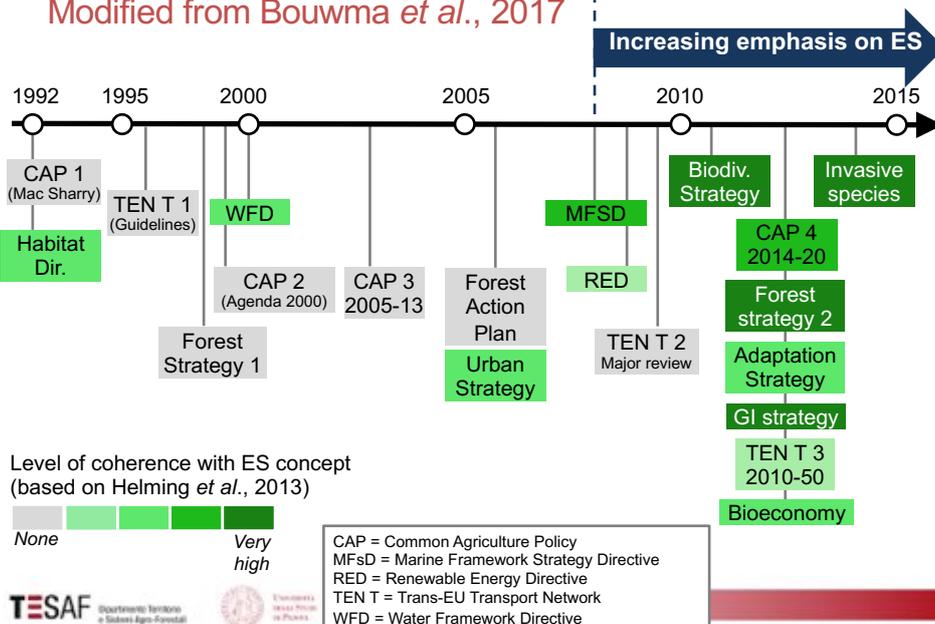


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EU policies and PES (1/2)

Modified from Bouwma *et al.*, 2017



EU policies and PES (2/2)

Some examples linked to the forest sector

EU Forest Strategy (2013),
Priority Area 4 → Protecting
forests and enhancing ES

**Multi-annual
Implementation Plan of
the new EU Forest
Strategy (2015) (p. 19):**

*“MS and the Commission
will foster innovative
mechanisms (e.g. PES) to
finance the maintenance
and restoration of ES
provided by multifunctional
forests”*

How?
Report + seminar (2016/17)
Link with MAES initiative

**Our life insurance, our
natural capital: an EU
biodiversity strategy to
2020 (2011)**

Action 5: Improve
knowledge of ecosystems
and their services in the
EU → ES mapping,
assessing, valuing
accounting and reporting by
MS

Action 11: Encourage
forest holders to protect and
enhance forest biodiversity

**EU Bioeconomy Strategy –
Commission staff working
document (2012)**

*“Work on land as a resource
to develop the full range of
ES, from crops to fresh water
to climate change mitigation
and adaptation”*

PES not mentioned

Focus on **“biomass”**,
provisioning ES (p. 16)

*“The bioeconomy
encompasses the **production
of renewable biological
resources** and their
conversion into food, feed,
bio-based products and
bioenergy”*

Carrots vs. sticks

Declaratory policy statements: voluntary instruments often defined as a priority, with a special focus on PES

On going practice: protecting natural resources with the relatively simple traditional Command and Control systems (reinforcement of public institut

- Natura 2000
- EU Timber Regulation (Reg. 995/2010)
- Discussion of “Cascade approach” and Sustainability criteria for biomass production: (RED recast Directive)

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Some barriers in the development of PES initiatives (1/3)

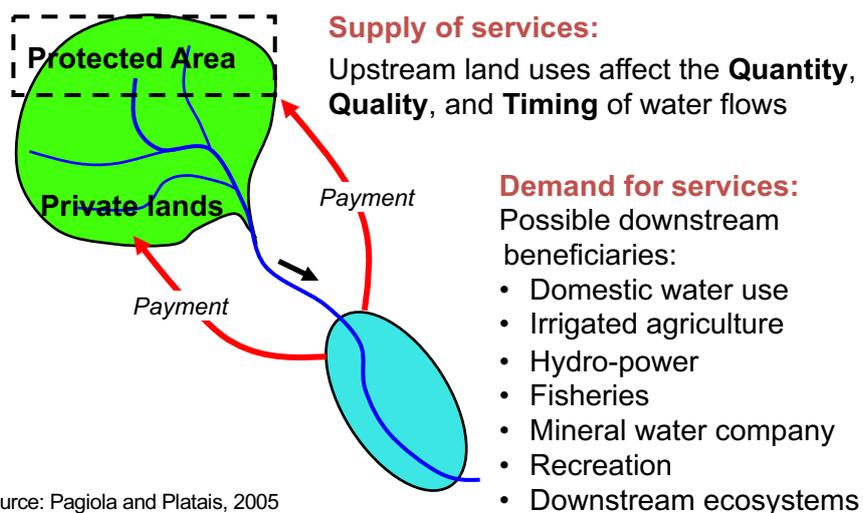
Barrier category	Challenges
Informational	Lack of awareness among beneficiaries and providers
Technical	Scientific uncertainty, Baselines, Leakage, ES valuation, Excludability and free riding, Shortage of skills and experience
Spatial	Spatial variability of ES
Temporal	Permanence, Time lags, Different time horizons
Financial	Perceived risks, High start-up and Transaction costs
Institutional	Perverse incentives, Complex policy environment
Legal	Property rights and other issues
Cultural	Aversion to paying for ES, Lack of trust, Terminology
Equity	Perceived unfairness

Source: modified from DEFRA, 2011

Some barriers in the development of PES initiatives (2/3)

- **Scientific/Technical barriers**, e.g. cause-effect links not always clear between ecosystem functions and ES (more direct for carbon, less evident for water-ES)

PES: the rationale (1/3)

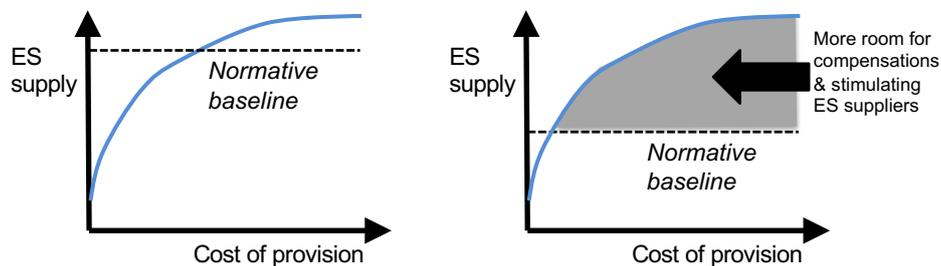


Some barriers in the development of PES initiatives (2/3)

- **Scientific/Technical barriers**, e.g. cause-effect links not always clear between ecosystem functions and ES (more direct for carbon, less evident for water-ES)
- How to **set ES prices** for the market?

How to set ES prices for the market?

- The prevailing approach by State actors → **cost of provision** (a robust framework adopted by EU Rural Development Program, EU WFD,...); high normative **baselines** might be a limitation



- An alternative criteria: the value of the service → **beneficiary's WTP** (normally higher than the cost of provision)

Some barriers in the development of PES initiatives (2/3)

- **Scientific/Technical barriers**, cause-effect links not always clear between ecosystem functions and ES (more direct for carbon, less evident for water-ES)
- How to **set ES prices** for the market?
- Many actors, negotiation needed, several middlemen → increased **transaction costs**, possible **conflicts**

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Some barriers in the development of PES initiatives (3/3)

- A **consolidated perception**: ES given for granted → why should we pay (more) for them?
- Definition/reform of **property rights**

Some barriers in the development of PES initiatives (3/3)

- **Ethical issues:**
 - **financialization** and commodification of nature (Kill, 2014)
 - market-based instruments and ethical motivations to manage public goods (*"I will supply an ES only if they pay me"*)
 - **distribution** effects, **equity**
- **Institutional and governance issues** → a new role for public institutions (facilitators)

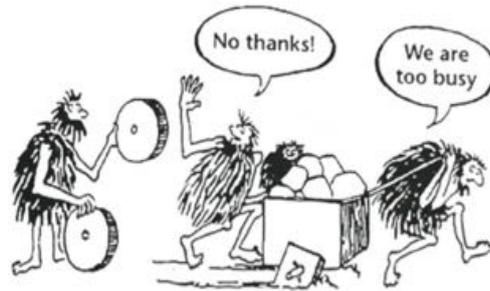
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- Great emphasis on ES and PES by policy makers, environmentalists, academia but a **limited number of pure PES initiatives** implemented so far
- WTP higher for **small-scale, local initiatives**, with well-identified, local beneficiaries
- **Several examples of quasi-PES (PES-like) initiatives**: border with ordinary financing mechanisms not always clear
- A **number of initiatives and experiences aiming to value ES** but lack of a systematic approach and common vision (technical/entrepreneurial competences & skills too?)

The broad set of tools to promote ES needs a new role and much higher level of **multi-level & multi-sectoral governance by public institutions**

...but public institutions are not always open and reactive to a rapidly changing world



Presentation available on the web. Search for "pettenella"