FORESTERRA ERA-Net Conference
"Key questions for future research in Mediterranean forests"
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Social innovation for resilient and productive Mediterranean forests

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Outline

1. Some introductory thoughts and concepts

2. Technological vs. social innovation

3. Examples of social innovation in Mediterranean forests

4. Open questions for research

5. Conclusions

1. Intro: What do we mean by <u>resilient</u> and <u>productive</u> Mediterranean forests?

<u>Resilience:</u> *"the ability of a system to cope with change"*

➔ *the capacity to deal with external stresses and disturbances as a consequence of* environmental and socio-political changes *(Adger, 2000) e.g. climate change, desertification, fire,...; EU crises: poverty increase, loss of employment, inequalities, ...*
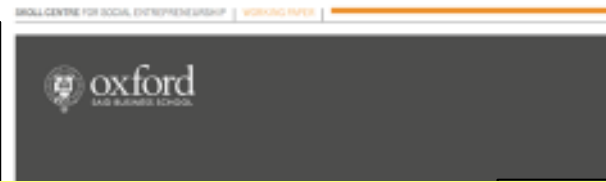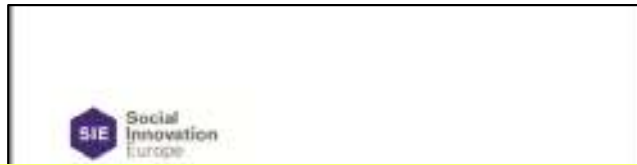
Production: *"wide range of forest goods and services based on the idea of multi-functionality (landscape, EA)"*

➔ *timber, biomasses,* NWFPs (namely cork, chestnuts, truffles – Vidale and Da Re, 2015 for StarTree project)*,* ESs (water, biodiversity, tourism, ...)

1. Intro: What do we mean by <u>Social Innovation</u>?

- SI as **the capacity to create and implement new ideas that are likely to deliver value** (thus meeting individual economic interests), **contemporarily responding to social demands** (thus meeting societal needs), that are traditionally not addressed by markets or existing institutions (e.g. BEPA, 2011; Anderson et al. 2015).

- SI might include (EC, 2013 and 2015):
- **new institutional environments and arrangements**
  (e.g. new formal or informal rules, new administrative procedures);
- **new fields of activity** *(e.g. social entrepreneurships and social enterprises, new social uses of forests);*
- **new actors' relationships and interactions** *(e.g. new forms of collaboration, new networks; new attitudes, values and behaviours).*

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1. Intro: Social Innovation as key-issue for Europe

EU2020 Strategy (smart, sustainable and inclusive) by mobilizing people's creativity ➜ SI as an **effective way to develop novel solutions** behind technological innovations, to make **better use of scarce resources**, and to promote an innovative and learning society (BEPA, 2011: 7)
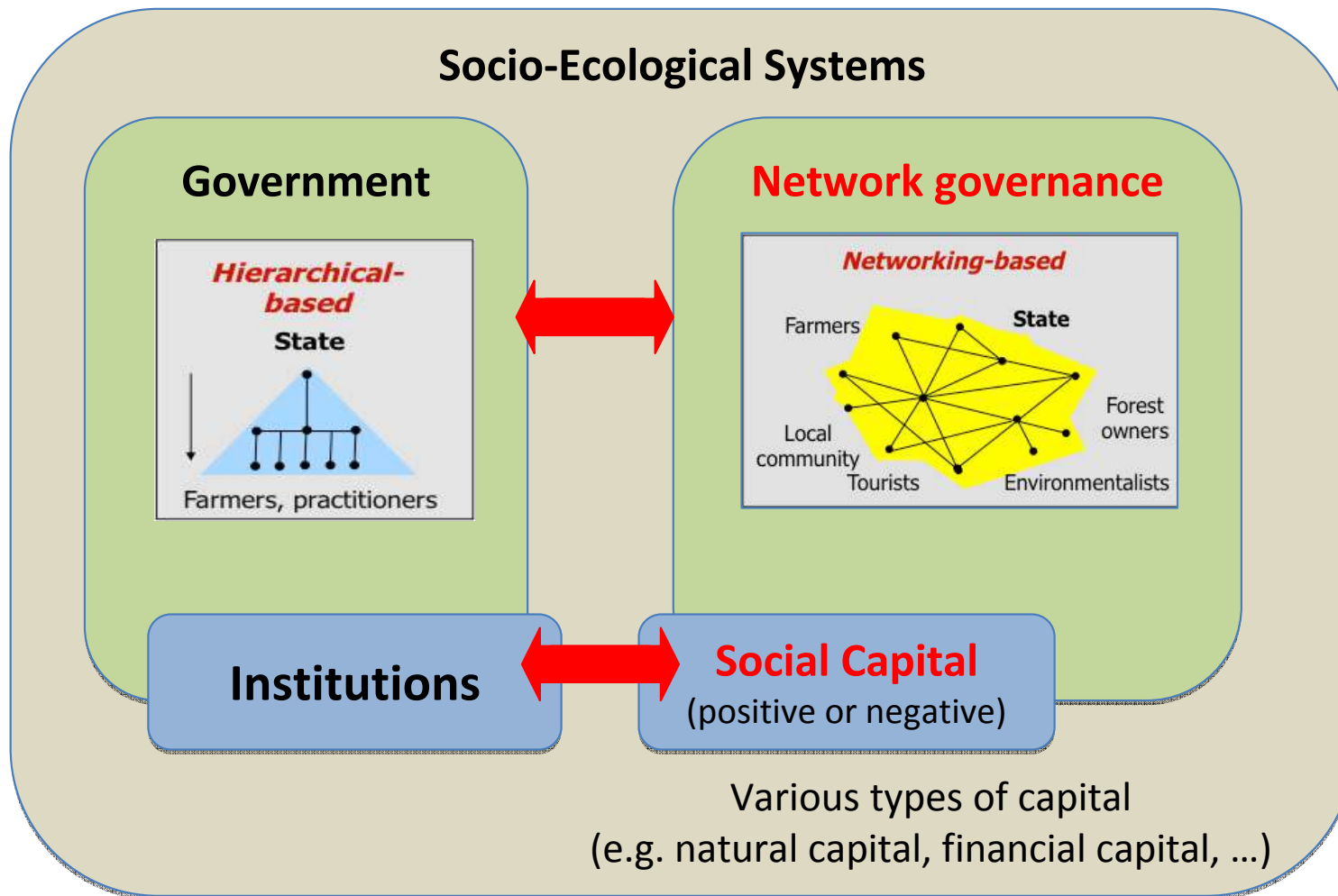
Specific calls in Horizon2020, e.g.
•*ISIB-3-2015 Unlocking the growth potential of rural areas through enhanced governance and social innovation.*
•*RUR – 15- 2016 The benefits of working with others – fostering social capital in the farming sector.*

February 2013

1. Intro: Fields of application and linked concepts

- **Bio-based economy,** green economy, circular economy
- **Especially in NRM** and rural development ➜ forestry

Socio-Ecological Systems

Government

Hierarchical-based

State

Farmers, practitioners

Network governance

Networking-based

Farmers
State
Local community
Tourists
Forest owners
Environmentalists

Institutions

Social Capital
(positive or negative)

Various types of capital
(e.g. natural capital, financial capital, …)

Network governance: new ways for mutual interactions of public and private actors in decision-making regarding collective problems (e.g. Lemos and Agrawal 2006, Arts and van Tatenhove 2006, Rametsteiner 2009, …)

Social capital: features of social organizations (trust, shared values and norms) that facilitate coordination and cooperation for mutual benefit (e.g. Coleman 1988, Bourdieu 1986, Putnam 1993)

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# 2. Two approaches to the bio-based/green/circular economy

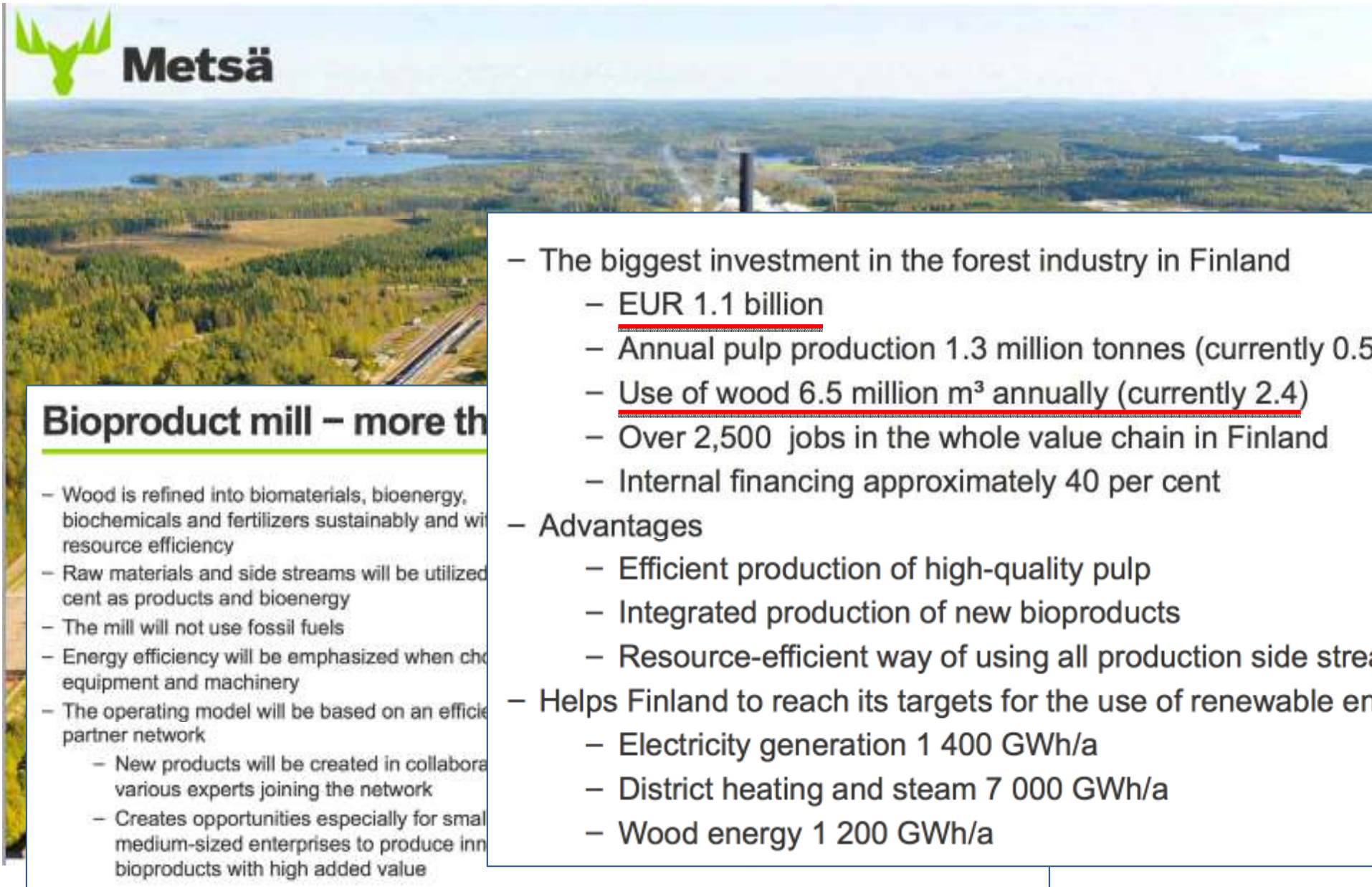|	Technological approach
Focus on	• Technological innovations • Large-scale investments • Value chain perspective • Sectoral development • Vertical integration
Outputs and inputs diversification	• Wood as the unique raw material • Diversification in outputs
Market power	• Increased market power of the industrial companies controlling the advanced technologies (→ *high risks connected to the companies consolidation trends)*
Measure of performance	Eco-Innovation Scoreboard (national level), by the Eco-Innovation Observatory
Model regions	UK, Scandinavian countries

(Source: own elaboration)

MGT TEESSIDE
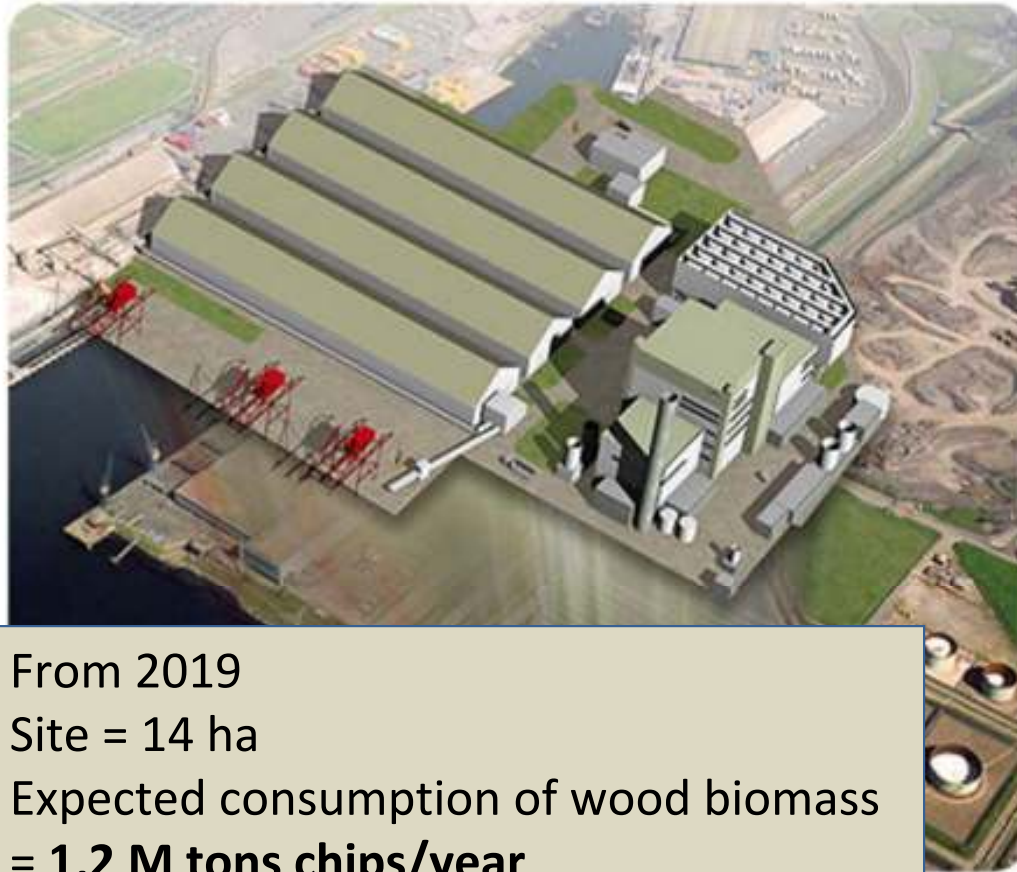
The Tees Renewable Energy Plant (Tees REP) is a proposed 299MW biomass power station that will generate electricity for the equivalent of 600,000 homes, 24 hours a day. The scheme will help to meet the UKs legally binding renewable energy target of 15% of all energy consumed by 2020, accounting for around 1% of the target. It will save about 1.2million tonnes of CO_2 per year by displacing a mix of coal and natural gas from UK generation.

- From 2019
- Site = 14 ha
- Expected consumption of wood biomass = **1,2 M tons chips/year**
- **Mainly from non-EU countries (the US)**

The Tees REP will be fuelled by wood pellets and chips, which will be imported by ship from sustainable forestry sources primarily from the United States. The wood pellets are produced from the co-products of the saw-timber industry and are sourced entirely from commercial forestry, which does not contribute to deforestation because forestry is always re-established after removals. The suppliers of our pellets and chips will be subject to regular third party audits to ensure the ongoing sustainability of our supply chain.

(Source: http://teesside.mgtpower.com/)

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Metsä

Bioproduct mill – more th...

- Wood is refined into biomaterials, bioenergy, biochemicals and fertilizers sustainably and wi... resource efficiency
- Raw materials and side streams will be utilized... cent as products and bioenergy
- The mill will not use fossil fuels
- Energy efficiency will be emphasized when ch... equipment and machinery
- The operating model will be based on an effici... partner network
    - New products will be created in collabora... various experts joining the network
    - Creates opportunities especially for smal... medium-sized enterprises to produce inn... bioproducts with high added value

– The biggest investment in the forest industry in Finland
  – EUR 1.1 billion
  – Annual pulp production 1.3 million tonnes (currently 0.5)
  – Use of wood 6.5 million m³ annually (currently 2.4)
  – Over 2,500 jobs in the whole value chain in Finland
  – Internal financing approximately 40 per cent
– Advantages
  – Efficient production of high-quality pulp
  – Integrated production of new bioproducts
  – Resource-efficient way of using all production side streams
– Helps Finland to reach its targets for the use of renewable energy
  – Electricity generation 1 400 GWh/a
  – District heating and steam 7 000 GWh/a
  – Wood energy 1 200 GWh/a

(Source: http://www.metsafibre.fi/)

2. Does this technological approach work for Mediterranean forests?

- **Highly fragmented forestland** ownership (especially private)

- **Difficult forest management conditions** (geomorphological constraints/limits)

- High esposition to **risks** (fires)

- Low financial profitability, **provision of high value public goods** (water, soil protection)

- **Wide range of forests**/environments

- Large majority of **SMEs**
- **Diversification of the production** (constellation of niche markets)
- Limited investments in technical assistance, innovation and R&D
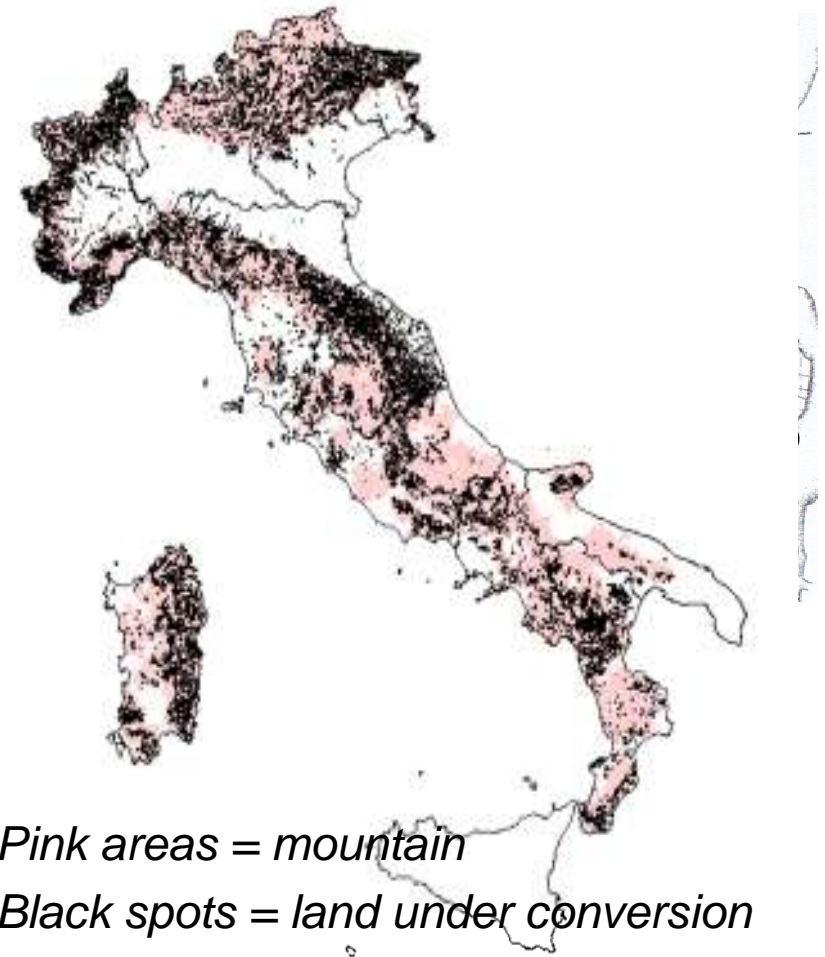
Pink areas = mountain
Black spots = land under conversion

3. Examples of social innovation in Mediterranean forestry

Three examples in the Mediterranean region:

1. The Mediterranean Model Forest Network
2. The *Produtos silvestres do Alentejo* (Portugal)
3. Borgotaro mushroom (Italy)

(Source: /)

2. Social Innovation in Mediterranean forests

Example 1: The Model Forest Network

Mediterranean Model Forest Network

- member
- candidate
- ★ MMFN Secretariat (Valladolid, Spain)

River Mirna Basin
Montagne Fiorentine
Provence
Urbión
France
Croatia
Spain
Italy
Turkey
Tlemcan
Ifrane
Yalova
Bucak
Morocco
Algeria

- Since 2008.
- **A regional network of local networks.**
- Specific IMFN **Principles and attributes.**

13 regions and countries:
Castilla y León (S), Murcia (S), Corsica (F), Provence-Alps-Costa de Azul (F), Sardinia (IT), Tuscany (IT), Istria (HR), Magnesia (GR), Western Macedonia (GR); Turkey, Tunisia, Morocco

(Source: MFN website, 2015 - http://www.imfn.net/)

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2. Social Innovation in Mediterranean forests

Example 1: The Model Forest Network

Partnership 1

Each model forest is a neutral forum that welcomes voluntary participation of representatives of stakeholder interests and values on the landscape

Model forest stakeholders represent diverse values and interests from various sectors of society who work towards a common vision for the sustainable management of the area

The model forest aims at having representatives from the public, private and volunteer sectors, community organizations, academia and research institutions involved in its activities

Involvement in all aspects of governance in the model forest is voluntary and inclusive

No discrimination against groups or individuals exists within the model forest partnership

Governance 4

The model forest management process is representative, participative, transparent and accountable, and promotes collaborative work among stakeholders

Stakeholders work together using consensus-based processes to attain the model forest's vision and objectives

A vision for the sustainable management of the landscape and its natural resources is developed jointly by the stakeholders

The model forest is a forum for exploring options to effectively address natural resource management conflicts

The actions of the model forest are governed by principles of trust, transparency and collaborative decision-making, while respecting various interests and values

(Source ... w.imfn.net/)

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2. Social Innovation in Mediterranean forests

Example 2: Produtos silvestres do Alentejo (Portugal)

- 7 municipalities
- 16 associations and cooperatives
- 5 research institutes
- 2 national business associations
- 59 individual private promoters

International cooperation/exchange of best practices

...but local knowledge, specialties and typical products, niche markets

Source: www.alentejosilvestre.com

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2. Social Innovation in Mediterranean forests

Example 3: Borgotaro network (territorial marketing)

Enterprises: 62 (in 2008)

15	Agro-tourisms/ Farm businesses
12	Hotels/Guest quarters
8	B&B/Inns/Hostels
9	Cheese, sausage and wine growing and producing factories
2	Didactic farms
3	Museums/Private collections
30	Restaurants/Porterhouses
26	Typical products sellers

Imago product:
Boletus mushroom

2. Open questions for future research…

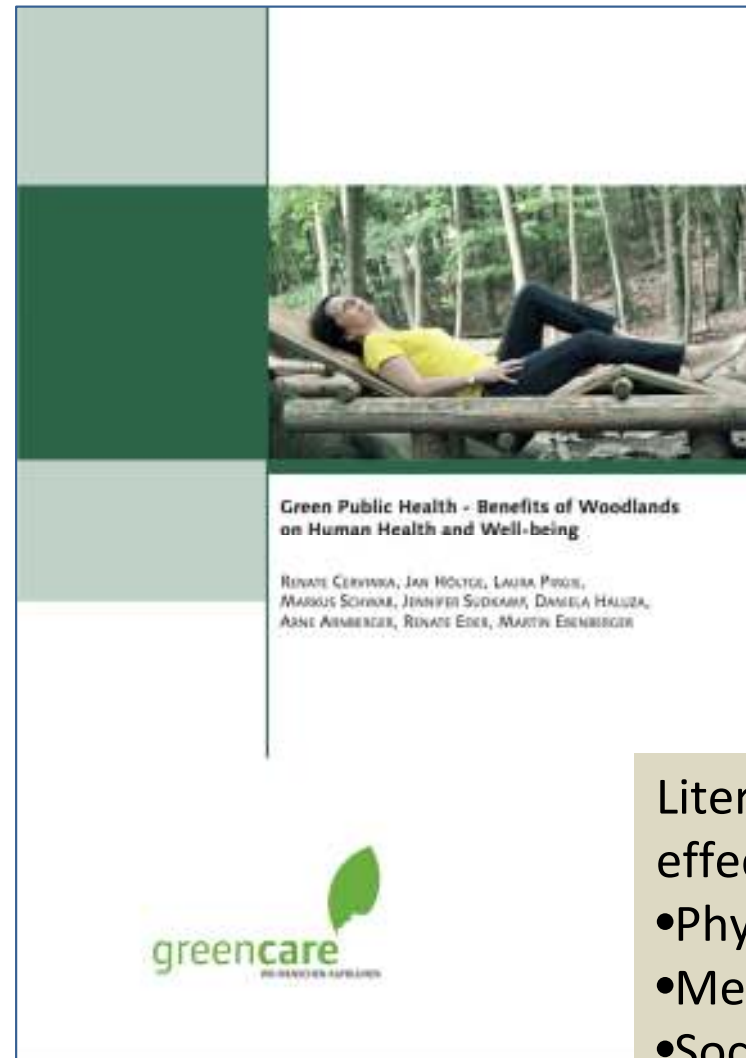So many knowledge gaps, that we can really be creative…

- **Empirical evidences of the cause-effect links** between social innovation and economic performance in forestry

- Short and long-terms effects of new institutional and policy frameworks/policy reforms on SI implementation in Mediterranean forests, e.g. **EU RDP 2014-2020 (art. 35 Cooperation)**

- Development of new/refinement of **sets of methods to measure social dimensions in innovative forestry** (e.g. Social Network Analysis)

- Role of networks and SC in **increasing the provision of ES**

- ….

2. …need to focus on <u>current and future</u> societal challenges!

Trying to identify and explore **unusual fields of research** and/or to use unusual interdisciplinary collaborations…

- **new social uses of forests** (Austria) *(medicine-landscape-forest)*

- legal and economic benefits for entrepreneurs of adopting **"network contracts"** (Italy) *(lawyers-forest economists)*

Green Public Health - Benefits of Woodlands on Human Health and Well-being

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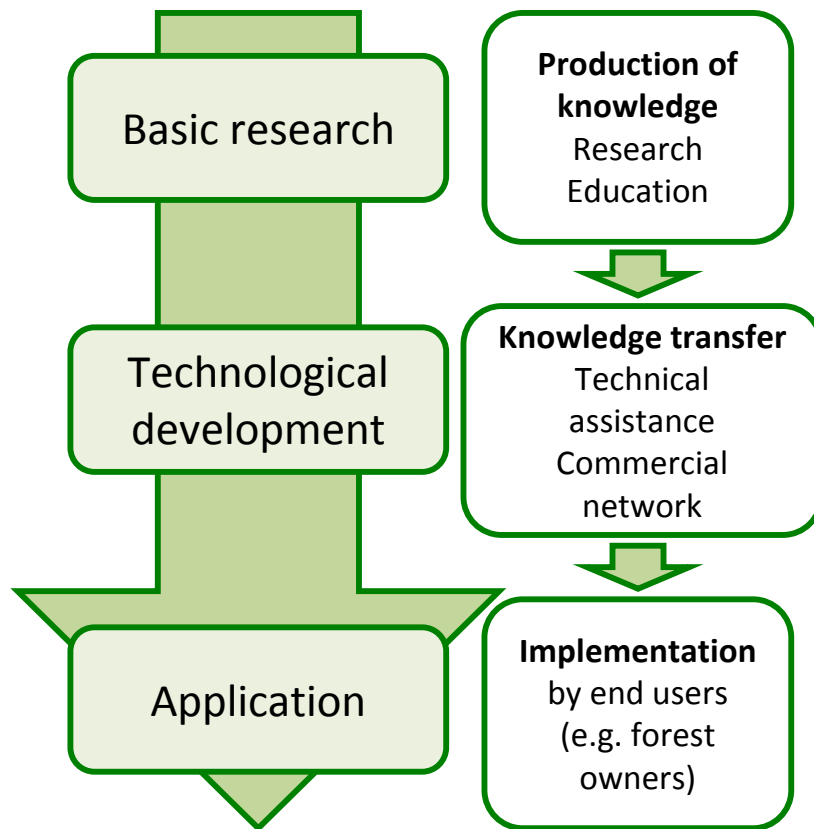
BFW.
Austrian Research Centre for Forests

greencare

Literature review of the effects of forests on:
- Physical health
- Mental health
- Social health

(Cervinka et al. 2014, http://bfw.ac.at/greencareforest)

Which model of (research) innovation in/for forestry?

LINEAR MODEL OF INNOVATION

Basic research

Technological development

Application

Production of knowledge
Research
Education

Knowledge transfer
Technical assistance
Commercial network

Implementation
by end users
(e.g. forest owners)

INTERACTIVE MODEL OF INNOVATION

Research

Dissemination

Forest owners

Technical services

Education/training
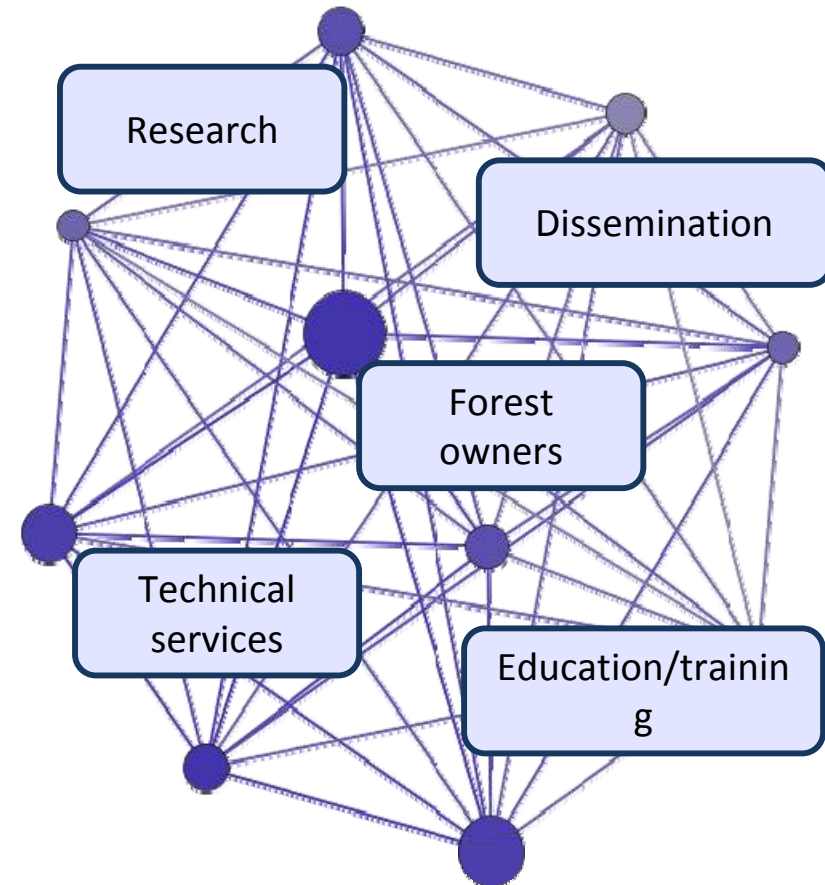
(Source: Illuminati, 2014 – mod.)

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Conclusions

- **So far, technological approach is largely predominant** with very limited investments in R&D linked with social dimensions (especially by private sector)

- However, **several examples of SI do already exist in forestry** in Mediterranean (and neighbouring) countries

- Due to the specific characteristics of Mediterranean socio-ecological forest-based systems, **social innovation models** based on:
  - *Local resources*
  - *Small-medium scale*
  - *Social Capital*
  - *Landscape approach*
  - *Traditional knowledge*
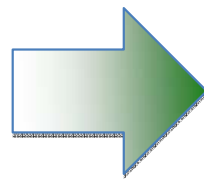
… are those more likely to have positive and significant impacts on resilience and productive capacity of Mediterranean forests

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Conclusions

Wishing that social-oriented innovation in Mediterranean forests will shift soon...

...from a dominated position...

...to a more visible, active and "aggressive" attitude!

Thank you for attention!

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