

Payments For Environmental Services (PES)
In Mediterranean Ecosystems
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PES CONTRACT DESIGN

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Outline

- 1. Introduction: why contracts?**
2. A bit of theoretical framework
3. Actors' relationships
4. Contract characteristics
5. Contracts and social capital
6. Conclusions

Introduction: why contracts?

In the past 2 main options to protect and supply Environmental Services (ES) in the Mediterranean region:

- **Command & control** instruments
- **“In house protection and production”** of ES by the government: direct land control by the public sector

How to support the supply of Environmental Services (ES)?

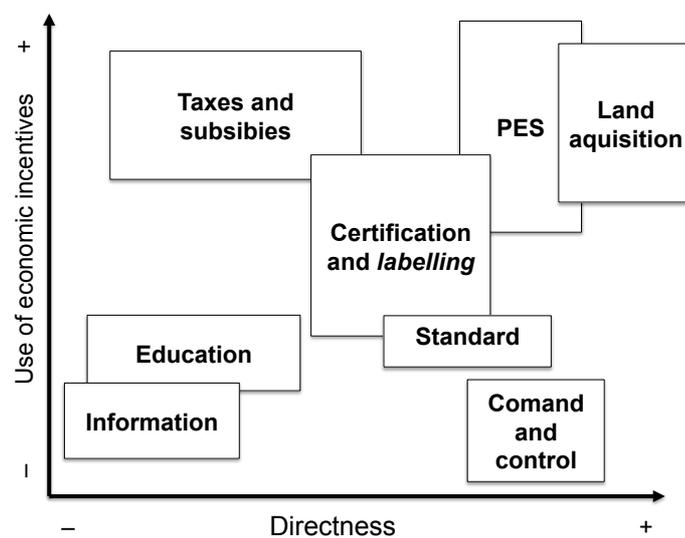
	Tools	Direct costs for the public sector	Transaction costs for the public sector	Approach	Participation by the privates	
Passive: Command and control	Thresholds, limitations, constraints	Relatively low	Relatively low	Top down	Compulsory	sticks
	Active: creation of new sources of income	Relatively high			Voluntary or imposed by the State	
Soft tools	Fixed compensation				Voluntary	carrots
	- PES schemes	Zero costs	Relatively high	Bottom up	Voluntary	
	- PES-like schemes	Very low	Low	Mixed	Compulsory for some parties	
	- PPP	Relatively high	Low	Top down	Voluntary	
	- Land acquisition by public authorities or large companies (lease, concessions, ...)	Relatively high	Low	Top down	Normally voluntary	
	- Tradable permits (cap & trade schemes)	Relatively low	Low	Mixed	Compulsory for some parties	
	- Certification and labelling (premium price)	Zero costs	Zero costs	Bottom up	Voluntary	
	- Sponsoring, donations (philanthropy)	Relatively high	Low	Mixed		
	- Information, provision of services, goods free of charge or a low prices	Relatively high	Low	Mixed		sermons

The general trend: from CoC to MBI

Soft and hard tools: alternative instruments or integrated ones?

- Complex problems need a variety of tools

Directness and use of public incentives

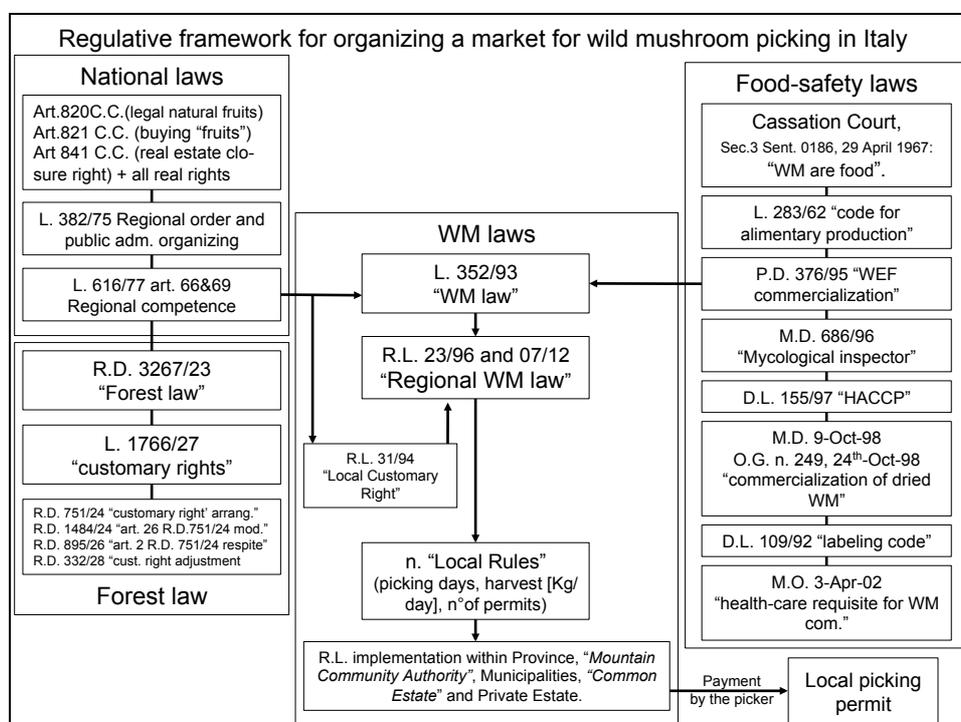


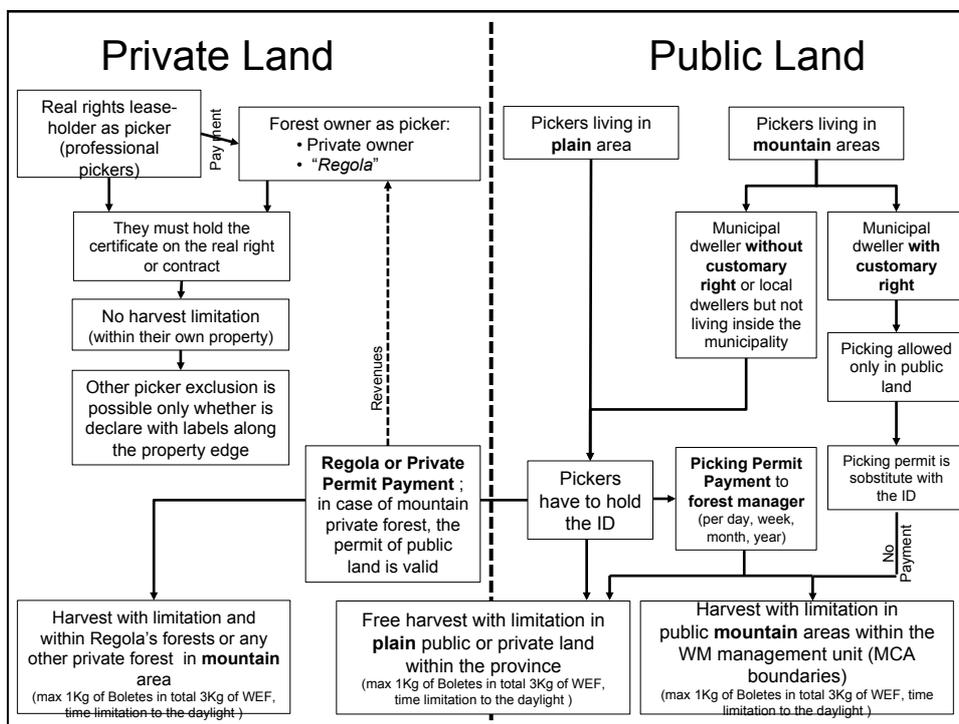
Source: Wunder (2006) modif.

The general trend: from CoC to MBI

Soft and hard tools: alternative instruments or integrated ones?

- Complex problems need a variety of tools
- Soft tools (like PES) need:
 - Information handling, technical assistance
 - Enforcement authorities and procedures
 - Property rights definition





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A bit of theoretical framework

Contract theory ← School of law and economics ← **New Institutional Economics** (Coase and Williamson)

Some key concept:

- asymmetric information
 - principal–agent problem
 - moral hazards
 - adverse selection
- “incomplete contracts”

Development: game theory and behavioral economics

Outline

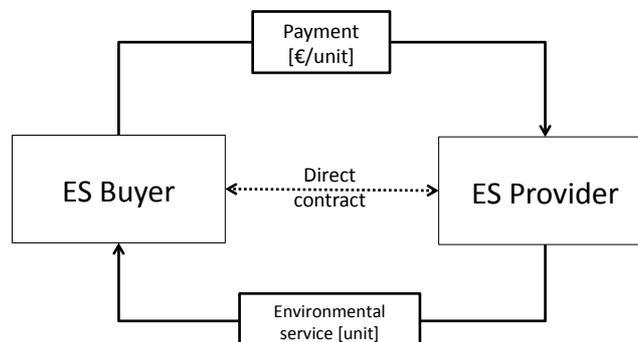
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Actors' relationships

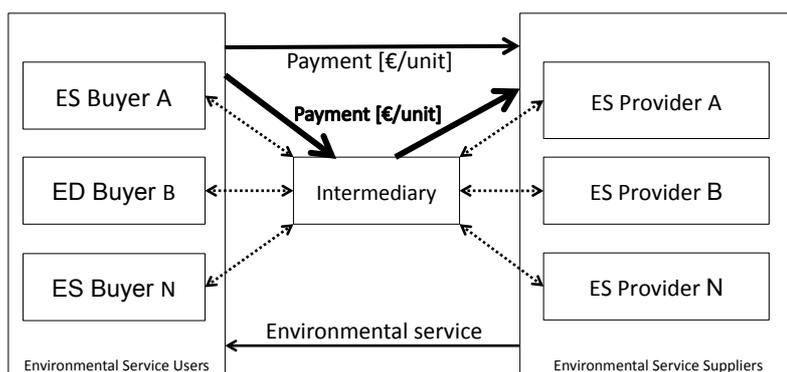
- Bi-lateral contracts
- Tri-lateral contracts
- Multi-actors contracts

Actors' relationships

The simplest case: buyer-provider

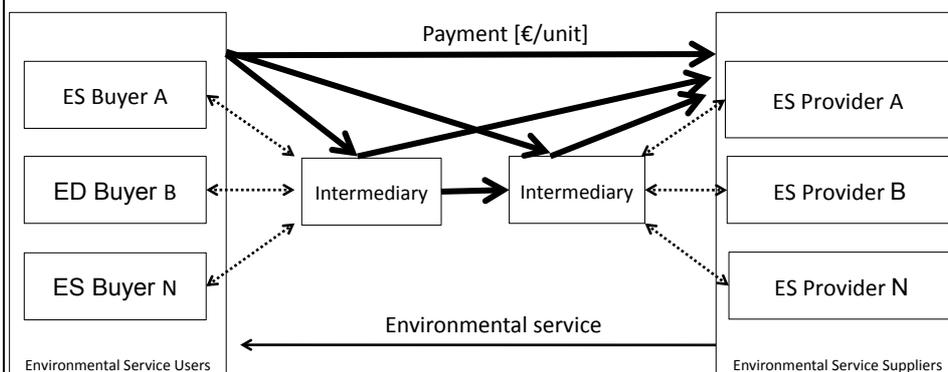


Actors' relationships: buyer-intermediary-provider 2 cases



E.g.: a public institution organizing or a company the provision of water services;
Payment for mushroom picking (permit sales)

Actors' relationships: buyer-more than one intermediary-provider



E.g.: the voluntary Carbon market

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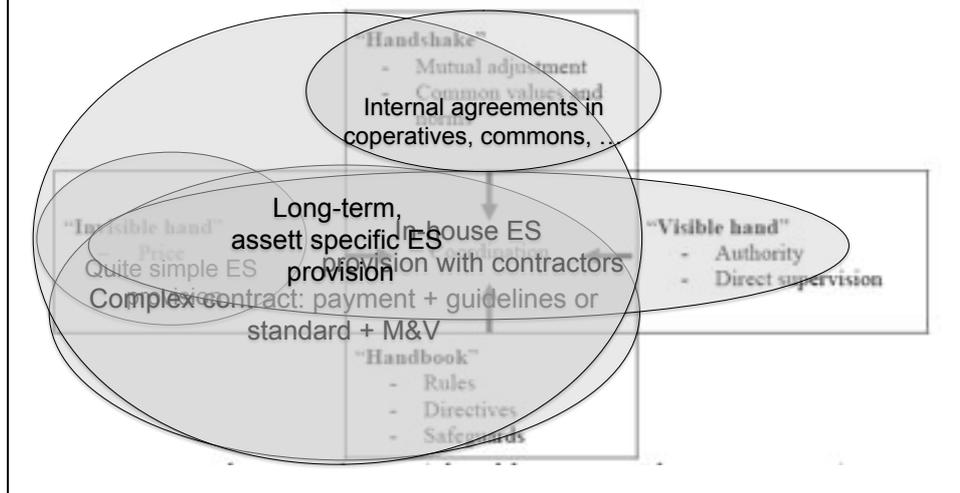
Contracts characteristics

(Polman & Slangen, 2007)

- Contract = a commitment based on a **voluntary mutual agreement** that specifies the actions each party will take ("**quid pro quo**", where "**quo**" is often a payment).
- Any contract has a **coordination mechanism**; there are 4 groups of coordination mechanisms:
 - Price
 - Handbook
 - Handshake
 - Authority-direct supervision
- ... or a **mix** of 2 (and even more) coordination mechanisms

Coordination mechanisms for contract implementation

(Borgen & Hegrenes, 2005)



Contracts related to ES

Relative **long duration** of transaction

Most contracts related to ES are **"incomplete"** (Oliver Hart, 1988):

- not all **information** is available
- not every **contingency** is anticipated
- not all **risks** involved in the contract are **defined and divided up** in an optimal manner among the contracting parties (often the contract is not immediately implementable and ES are offered after some time)
- not all ordinances of the contract are **verifiable**, so that one party can call upon a third party (e.g. a judge) to enforce the contract
- **enforcement** is sometimes expensive

Similar problems to those of a "perfect" market:
market failures \leftrightarrow contract failures

Contracts typology

5 elements to define a contract

(Deakin & Mitchies, 1997):

- Contract form
 - Duration
 - Distribution of power (control rights)
 - Contractual duties
 - Enforcement
- 3 types of contracts

3 type of contracts

- Classical contracts
- Neo-classical contracts
- Relational contracts

Classical contract

- The identities and personal characteristics of the parties are irrelevant
- A discrete exchange or transaction is specified
- Contingencies and/or unexpected events, and penalties for non-performance are specified
- Written documents overrule any verbal agreement
- Court of law arbitrates in the case of difference of opinion or in the event of disagreement

Neo-classical contract

- The identities of parties is of importance/ matters
- Usually is of fixed duration. Normally it specifies a fixed duration (and /or task to be completed)
- It is accepted that not all unexpected events can be specified (or accepted that not all contingencies can be specified)
- Written documentation provide the status quo basis for further negotiation
- Arbitration procedures exist in case of differences in opinion or dispute

Relational contract

- The identities and personal characteristics of the parties are crucial
- It is often of unspecified duration (or normally indeterminate duration)
- Norms of behavior, or shared codes of conduct specify the reaction to new developments, or inform responses to new developments as they unfold
- Written documentation is used as an official document of agreement, or is treated as a record of what has been agreed
- Values and norms of behavior, or shared codes conduct are of greater importance than written documents in case of differences in opinion. They overrule written documents in settling disputes

Source: Lyons and Metha (1997: 49)

Classical contracts (1/2)

Example: tree linear planting for bird diversity;
keeping some grassland set aside as nesting
areas; C credit market

Elements:

- **Identity** of the provider does **not matter**
- **Clear duration** (even spot-market)
- Usually discrete or one-term transactions with **low level of asset specificity, uncertainty, frequency**
- Performances are easily **measurable**
- **Fixed prices** for the payment

Classical contracts (2/2)

- **No** particular interest in continuing the contractual relationship
 - The contract tend to be “**everything included**” *ex ante* but opportunistic behaviour is always a risk
- **learning process** connected to repetition and new contracts

Usually **large set of potential providers**: low transaction costs; selection by auction is possible

Neo-classical contracts

Example: Natura2000 management agreement; “adoption” practices (of trees, piece of land)

Elements:

- **Identity** of the provider is **important**
- **Performances** are **not** always easy to be **measured**; some asset specificities and ES provision at different level → **indicative prices** and specific safeguards for the payments (monitoring systems)
- Conflicts between providers and payers: **arbitration procedure** in anticipation of problems

Relational contracts

Example: a mountain hotel agree with nearby farms to have the grassland managed, horse riding trials, fresh milk, educational services for the clients

Elements:

- **Identity** of the partners is a **key-variable**
- Duration can be unspecified; **usually long**
- **Flexible payment mechanism** (sometimes barter or exchange of services)
- **Performances** are sometimes **not easily measurable**
- Opportunistic behaviour are rare
- **Conflicts** between providers and payers: importance of the letters of intents, gentleman's agreements, share codes of conduct, reputation
- **Asset specificity**

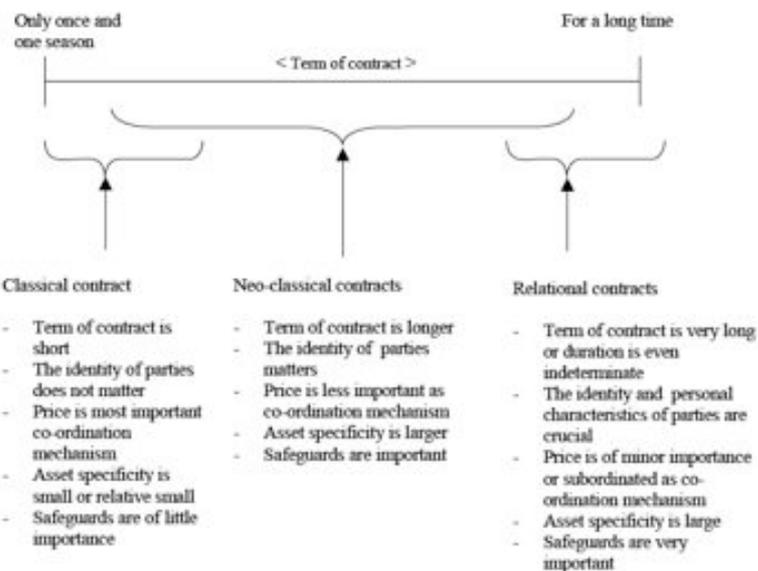
Asset specificity in ES providing

= the degree to which an asset is committed to a specific task and thus cannot be redeployed to alternative uses without sacrificing the majority of his vale.

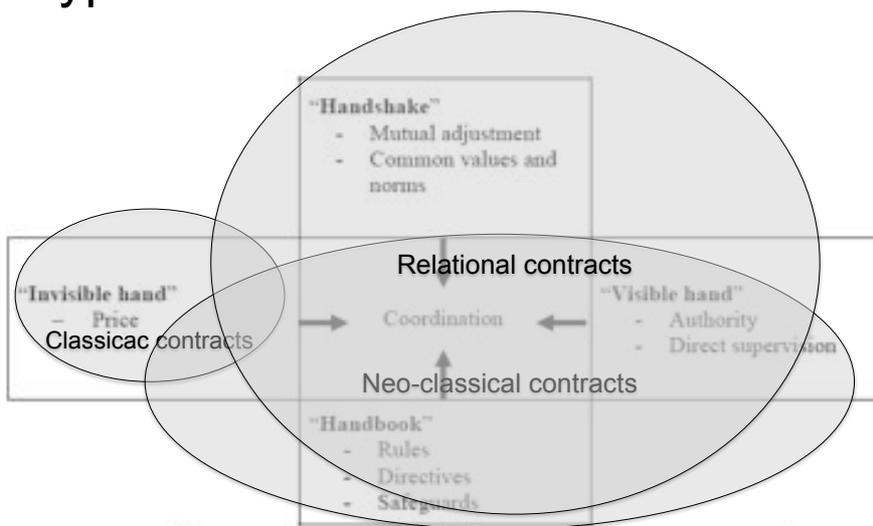
3 types of asset specificity (Polman & Slangen, 2007):

1. Site specificity, which refers to an asset that becomes committed to a particular use owing to its location. The land used for preserving wildlife and landscape, because of its 'use' but also because of its 'site', is asset specific. Valuable areas for wildlife and landscape are immobile and location tied (that is tied to a particular area).
2. Physical asset specificity, such as investments in machinery, equipment or land, and one that has a narrowly defined purpose. Investments in land or in machines used for wildlife and landscape preservation have a narrowly defined purpose, and are sunken investments.
3. Human asset specificity that arises through learning-by-doing. Preserving wildlife and landscape is a process of learning-by-doing; it requires an investment in human capital and time.

Contracts duration



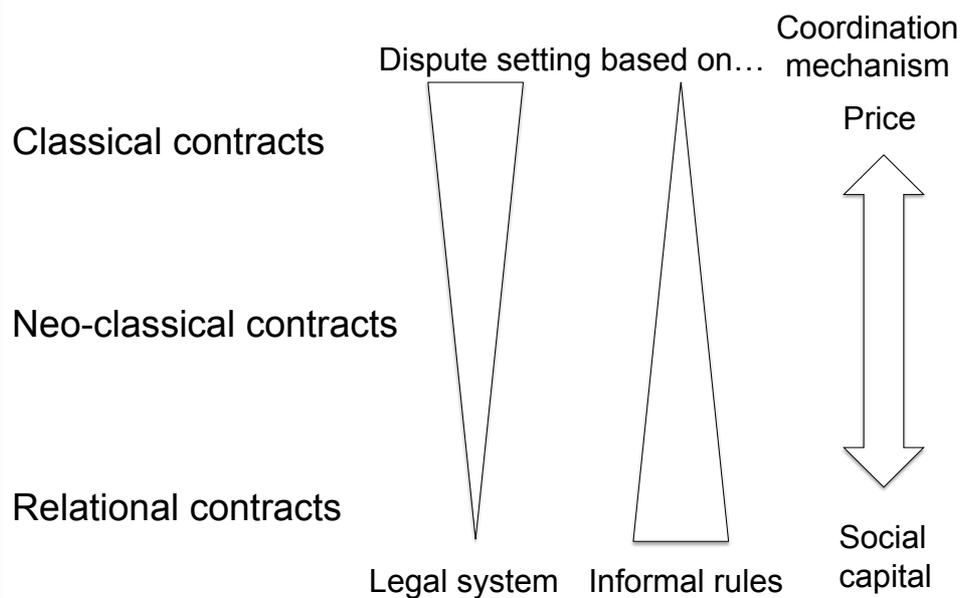
Coordination mechanisms and type of contracts



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Contracts and social capital



Social Capital definitions (from Bjørnskov and Sønderskov (2010), adapted from Knowles (2006))

Study	Definition
Coleman (1988, p. 95)	"obligations and expectations, information channels, and social norms"
Coleman (1990, p. 304)	"social organization constitutes social capital, facilitating the achievement of goals that could not be achieved in its absence or could only be achieved at a higher cost"
Putnam (1993, p. 167)	"features of social organization, such as trust, norms and networks that can improve the efficiency of society"
Fukuyama (1997, p. 378-379)	"the existence of a certain set of informal rules or norms shared among members of a group that permits co-operation among them. The sharing of values and norms does not on itself produce social capital, because the norms may be wrong ones [...] The norms that produce social capital[...] must substantively include virtues like trust telling, the meeting of obligations and reciprocity"
Knack and Keefer (1997, p. 1251)	"Trust, co-operative norms, and associations within groups"
Narayan and Pritchett (1999, p. 872)	"the quantity and quality of associational life and the related social norms"
Putnam (2000, p. 19)	"connections among individuals – social networks and norms of reciprocity and trustworthiness that arise from them"
Ostrom (2000, p. 176)	"the shared knowledge, understandings, norms, rules and expectations about patterns of interactions that groups of individuals bring to a recurrent activity"
Paldam (2000, p. 635)	Three families: 1) "the ability of [an individual] to work voluntarily together with others of [a population]"; 2) "the quantity of trust [an individual] has in other members of [a population]"; 3) "the amount of benefits the individual can draw on his goodwill"
Whiteley (2000, p. 450)	"the willingness of citizens to trust others including members of their own family, fellow citizens, and people in general"
Woolcock (2001, p. 13)	"the norms and networks that facilitate collective action [...] it is important that any definition of social capital focus on the sources rather than consequences [...] this approach eliminates an entity such as 'trust' from the definition of social capital"
Lin (2001, p. 24-25)	"resources embedded in social networks and accessed and used by actors for actions. Thus the concept has two important components: 1) it represents resources embedded in social relations rather than individuals, and 2) access and use of such resources reside with the actors"
Bowles and Gintis (2002, p. 2)	"trust, concern for one's associates, a willingness to live by the norms of one's community and to punish those who do not"
Knack (2002, p. 42)	"common values, norms, informal networks, and associational memberships that affect the ability of individuals to work together to achieve common goals"
Sobel (2002, p. 139)	"circumstances in which individuals can use membership in groups and networks to achieve secure benefits"
Durlauf and Fafchamps (2004, p. 5)	"A feature that 'generates positive externalities for member of a group [...] that are achieved through share trust, norms and values and their consequent effects on expectations and behavior [...] shared trust, norms and values arise from informal forms of organizations based on social networks and associations"
World Bank (2005)	"norms and networks that enable collective action"
Groot et al. (2006, p. 1)	"Social capital includes all factors that foster social relations and social cohesion"

Dimensions of social capital (Nahapiet & Goshal, 1998)

- Structural dimension → value chain organization
 - Networks & configuration
- Cognitive dimension → shared vision
 - Shared language & codes
 - Shared narratives
- Rational dimension
 - Trust values
 - Norms
 - Obligations

An example: the village of Grumes (Trento Province - I) 450 inhabitant; 22 associations



Social capital typologies

Social capital	Link structure	Determinants	Impacts
Bonding	Among actors of the same group	Family, cultural, professional links	Strong identity, cooperation attitude, IK sharing
Bridging	Among actors of different groups	Links among actors with different socio-economic background but (occasionally) involved in the same activity	Mutual trust, less transaction costs (financial risks), knowledge sharing
Linking	Among private actors and public institutions	Links with political and public institutions	Good governance

few days- one week holidays (normally for aged persons) based on

- roasted fresh chestnut +
- walnut +
- new red wine tasting +
- speck and the meat

organized in South Tyrol

Autumn - "Törggelen" time

Autumn walks with friends and calling in at mountain farmhouses or inns for refreshment - called Törggelen- is a favorite traditional activity in South Tyrol. The "Neues" (new wine made from grapes which a couple of weeks before were still in the vineyard) plays an important part, along with traditional dishes including "Speck" (cured, cold smoked bacon), home made sausages with Sauerkraut or red cabbage, roast chestnuts followed by home made pastries, and much more. Törggelen is a delight for all lovers of genuine food and drink, especially when enjoyed outside in the warm autumn sunshine from October to mid November.

On the left you will find informations on mountain restaurants offering snacks and new wine, mountain refuges and cable cars.

**Bonding Social Capital:
an example
Törggelen holydays**

<http://www.wanderhoteleuropa.com/it/wandern/angebote/05.html>

**Bridging Social Capital:
an example**

**Adotta un castagno
Garfagnana**

Adopt a chestnut tree:
75 €

A cluster of services provided by different actors

I vantaggi di adottare un castagno in Garfagnana:

- 10 Kg di frutto fresco selezionato
- 2 Kg di frutto essiccato
- 2 Kg di farina di Neccio DOP
- 1 Carnet con lo sconto del 15% per 14 pernottamenti (7 pernottamenti per 2 persone) presso le strutture agrituristiche delle aziende situate nell'area (escluso i mesi di Luglio e Agosto)
- 3 buoni sconto del 20% sull'acquisto dei prodotti dell'Associazione Castanicoltori nei negozi che aderiscono all'iniziativa
- 1 buono sconto del 20% sul menù degustazione con piatti tipici a base di farina di castagne valido per due persone nei ristoranti e agriturismi che aderiscono all'iniziativa.
- 1 buono per l'assistenza e la guida per la visita al bosco di Cerassa, al mulino e al meteo

Per le nuove adesioni Pacco di benvenuto con:

- 1 Confezione di prodotti tipici a base di castagne (biscotti, miele, confettura e pasta)
- il grembiule per la raccolta delle castagne.

Linking Social Capital: an example Borgovalditaro

Enterprises: 62 (in 2008); > 100 in 2011

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

Territorio

- THE TRAIL
- MAP OF THE TRAIL
- ITINERARI
- TOWNS ALONG THE TRAIL
- PARKS
- MUSEUMS
- TOURIST INFORMATION
- FOODGALLERY

FIRMS

- Bed & Breakfast
- Casificio / Salumificio / Az. Vitivinicola
- Farmhouse holidays
- Fattoria Didattica
- Hotel
- Museo / Collezione privata
- Restaurant
- Sale of local products

Link

- Fungo di Borgovalditaro
- Meteo Apuane
- Strada del Prosciutto
- Emilia Romagna Turismo

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maglie (dall'ora giovedì e domenica mattina
aperta)
funghi porcini freschi di stagione

ES contracts are much connected with motivations

(Milgrom & Roberts, 1992)

- **Providers:**
 - Profit (\leftarrow payment; the case of classical contracts)
 - Non monetary (relational contracts):
 - Intrinsic: altruism, reputation, tradition, ...
 - External: pressure/expectation by the community, by authorities/leader/relatives, ...
- **Buyers:**
 - Benefits
 - Values

These motivations are valid also as **obstacles** to contracts:

- Why should I share some of "mine" ES
- Why should I pay for my basic rights?

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Main points for reflection

Still in the Mediterranean region the **traditional regulative instruments** are playing a **fundamental role** in ES provision:

- A **passive role** of the civil society; **citizens** used to **pay tax**, not to pay on a voluntary basis for ES; land owners' **defensive attitude**
- "Soft" tools like PES require a **proactive public administration** open to partnership, negotiation, innovative attitude in sharing responsibilities, costs and benefits, ...

Public administration has the responsibility of **changing its culture** and general approach ...

... from a passive role in controlling the resources ...



... to an active partnership in rural development ...

