

Understanding changes in rural landscape management: contributions from transition theory

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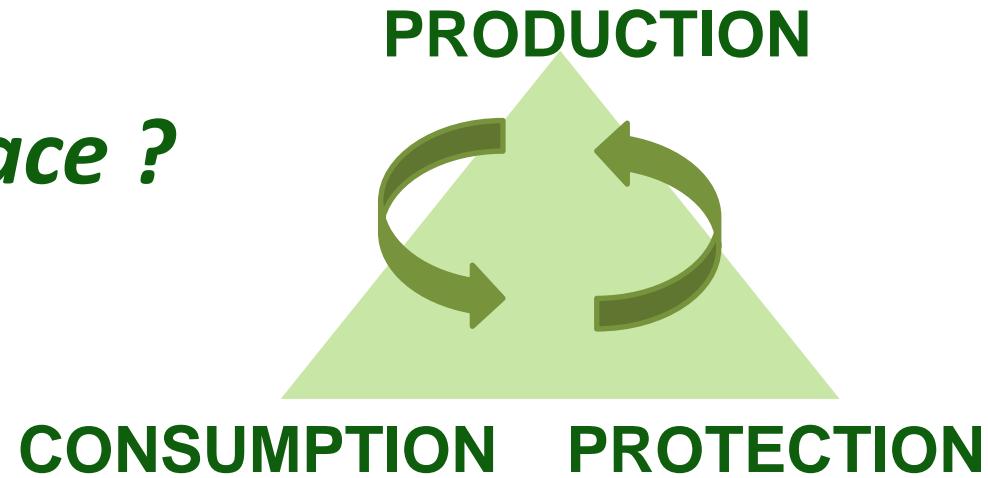
FarmPath (FP7 Project)

CBA Seminars in Ecology and Evolution

Faculdade de Ciências da Universidade de Lisboa, 14 October 2013

Changing modes of rural occupancy: an on-going dynamic process

*what is driving
the use of the rural space ?*



→ relative weigh of production, consumption and protection are being altered, and often re-arranged again >> contradictions and complex dynamics



new management models

Differentiation of space trajectories

*Domon 2011, Holmes 2006 and 2012;
Marsden 2013; Marsden and Somino 2008; Wilson 2007*

Transition theory suggest that there is a spatial, temporal and structural co-existence of several **processes of transition** from productivism to post-productivism, and further to bio-economic productivism, going on in rural areas in Europe, resulting in an increasing diversification of rural space

changing drivers of landscape



Particularly relevant in High Nature Value Farming Systems (HNV)

Type I

Farmland with high rate of semi natural vegetation



Type II

Farmland with a mosaic of low intensity agriculture and natural and structural elements



* how can their balanced management be secured ?

Transition studies, grounded in transition theory

Elzen et al 2004; Geels 2004; Geels and Shot 2007

- Multi-actor
- Multi-level: niche, regime, landscape
- Multi-phase: pre-development, take-off, acceleration, stabilization
- Long time frame: 25-50 years, breakthrough: 10 years
- Radical shifts: change in functioning of a sub-system: in terms of structure, culture and practices
- Focus on socio-technical transitions
 - Change in technology affecting society at large

Complex Adaptive Systems

- Complexity
 - Multi-causality, anti-reductionism, importance of context
- Co-evolution (no simple cause-effect)
 - Interactions b/w societal subsystems influence the dynamics of the individual societal subsystem
 - Innovations and societal processes of embedding (selection, regulations, markets, cultural symbols)
 - Interactions b/w societal groups
- Adaptive management
 - Envisioning, experimenting, learning
 - Cyclical, iterative process
 - Co-designing and social learning

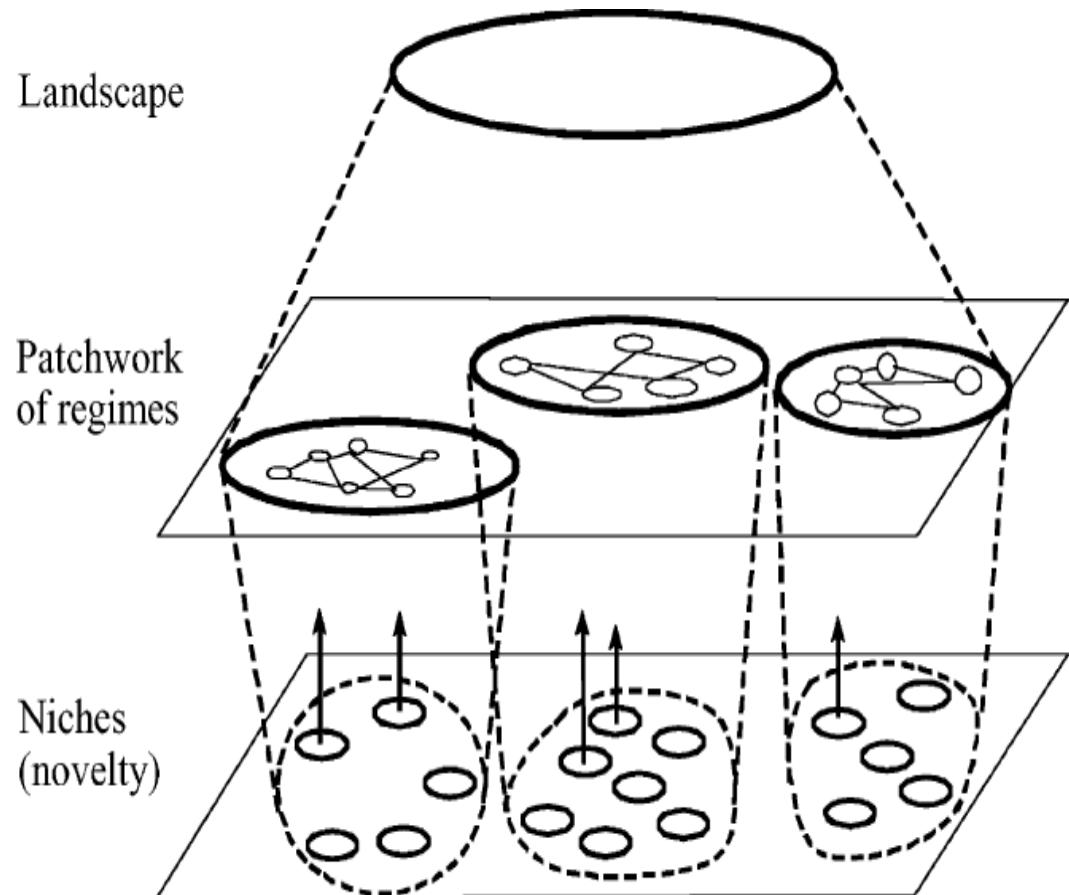
Transition theory: the multi-level perspective

- **Landscape**
 - Broad background structures, external context, society
- **Regime**

Regulations, markets, sector infrastructures with stable configurations
- **Niche**

Entrepreneurs+innovators
Actively construct niche

Mutual reinforcement needed for transition: alignment of trends and events



Transition theory: how radical changes occur?

Landscape press the regime

Opens a window of opportunity

Mediated by actors' perceptions,
agendas, negotiations

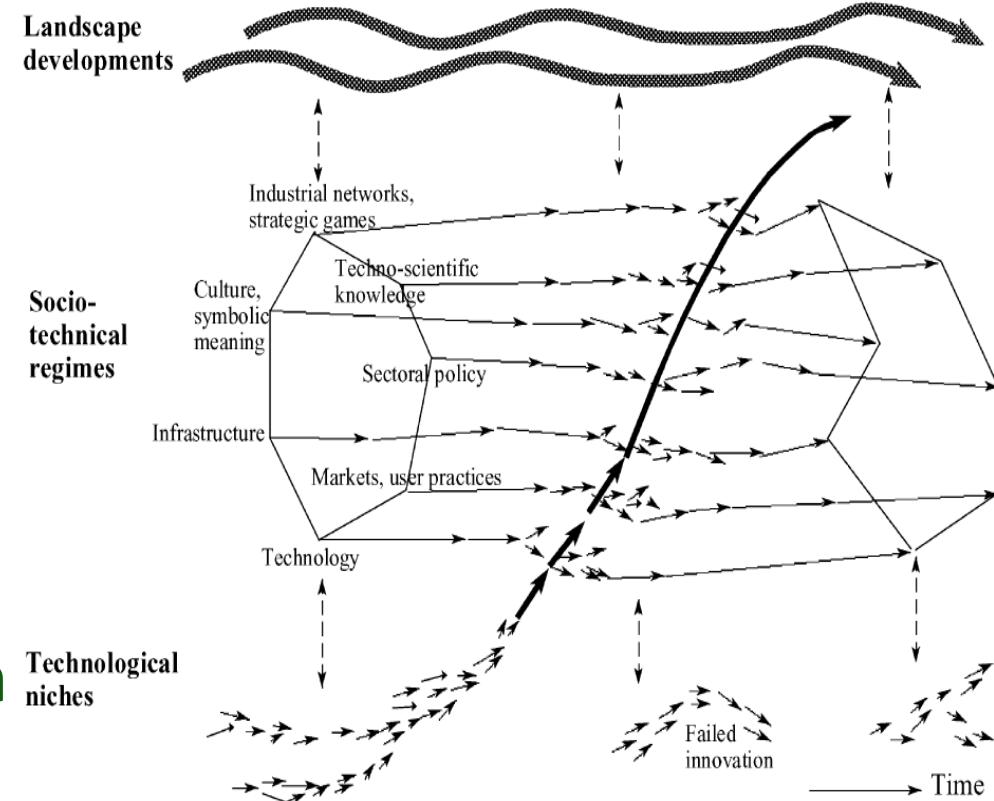
Regime fails to offer solution

Niches emerge

Initially: mismatch with existing regime, e.g. policies, infrastructure requirements, user practices

Competition between niches, and then Co-evolution

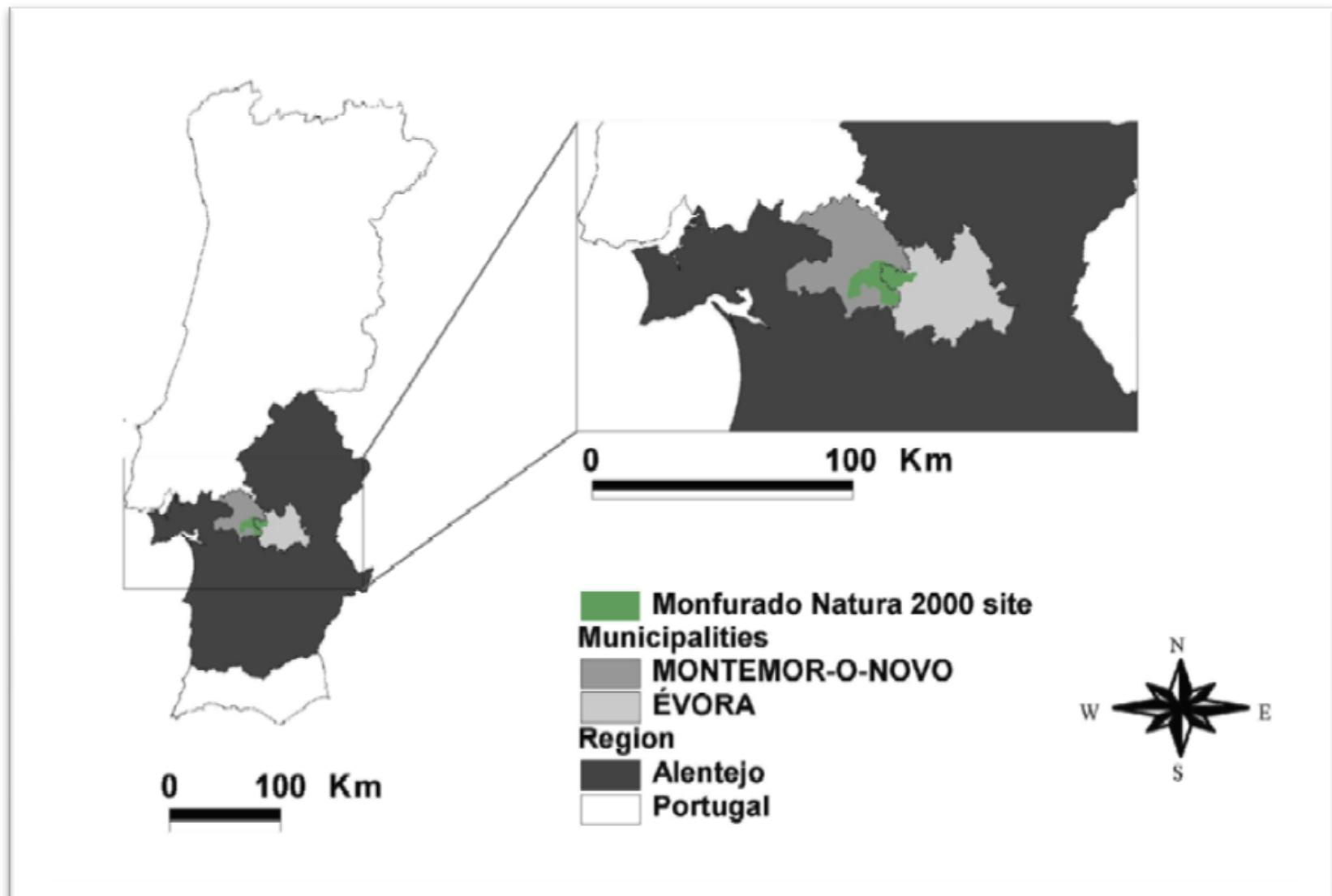
Pressure the regime(s), meeting landscape pressures



**Anchoring of niche in regime > adaptative management
> change in regime > mainstreaming**

Understanding landscape management in practice

Monfurado Natura 2000 site: is farm management following the conservation goals ?



MONTADO: *agro-silvo pastoral system* open oak forest + extensive grazing



MONTADO: a biodiversity hotspot multiple public goods



Highly resilient land use system, but threatened:

INTENSIFICATION

- Over-exploitation of tree cover, both cork harvest and pruning for charcoal production
- Over-grazing leading to soil compaction, increased erosion, hinders tree regeneration and reduces diversity
- Mechanized and deep ploughing affect root system and weakens the trees

EXTENSIFICATION

- Extreme decay of cultivation in under-cover rotation
- Shrub encroachment and increased fire risk
- Forest closing and decreased heterogeneity
- Simplification of the landscape pattern

public policies disconnected intervention

Still coupled payments for livestock production >>

Maintain system productivist rationale

Leads to increased grazing density

Contributes to a status-quo maintenance: no need to innovate

Tensions in relation to agri-environmental goals:

Natura 2000 sites: management plan only normative

LIFE or other projects: supporting extensive management in
selected plots but no change in overall land owners behaviour

Rural development: focused on small scale farmers, a minority and
a disappearing type

Environmental payments: restrained by fixed conditions,
highly driven by lobbying capacity

business as usual...or exploiting innovation paths ?



between specialised production and conservation driven or diversifying for multifunctionality,

→ farmers feel conflicts between different policies and tensions between management models



CONVENTIONAL EXTENSIVE

- Medium & Large farms (20 - 500 ha)

Low education level

Traditional Farmers with Rural background

Production oriented management focused on livestock

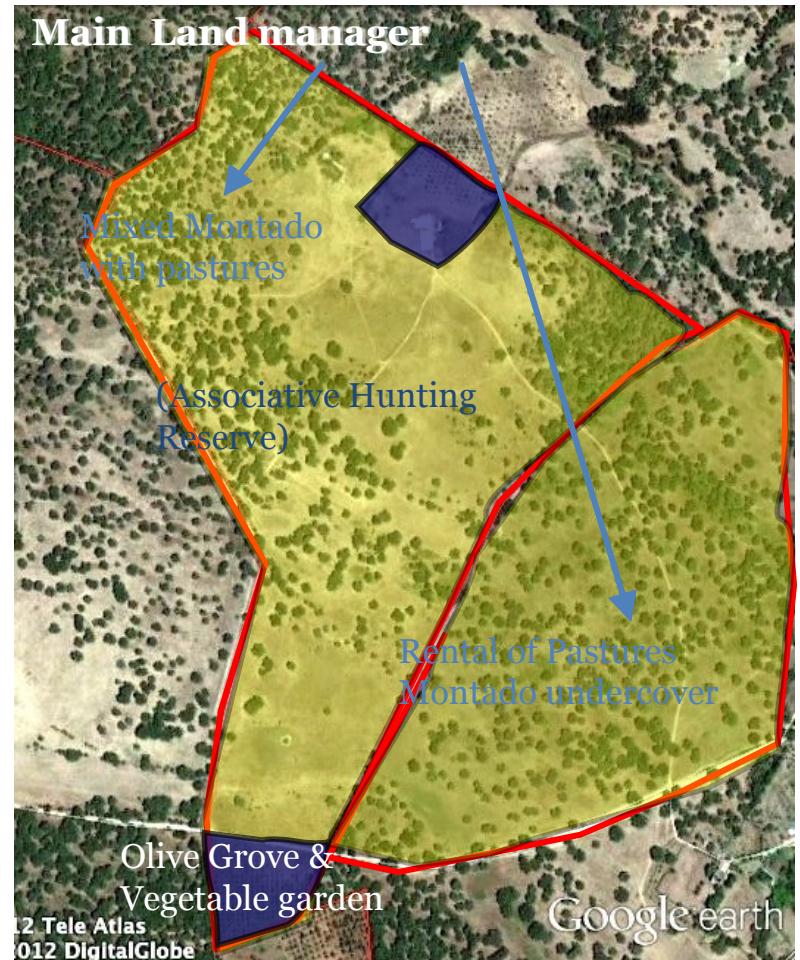
Low investment & innovation capacities

Living in the farm

No secondary land managers

LOW RESILIENCE

1. Low innovation capacity
2. High Subsidy dependence
3. Low succession possibilities



SPECIALIZED AGRI-BUSINESS

- Very large farms (> 500 ha)

High education level

**Traditional family business farms /
Corporations**

**Production oriented management
intensifying towards
maximizing profit**

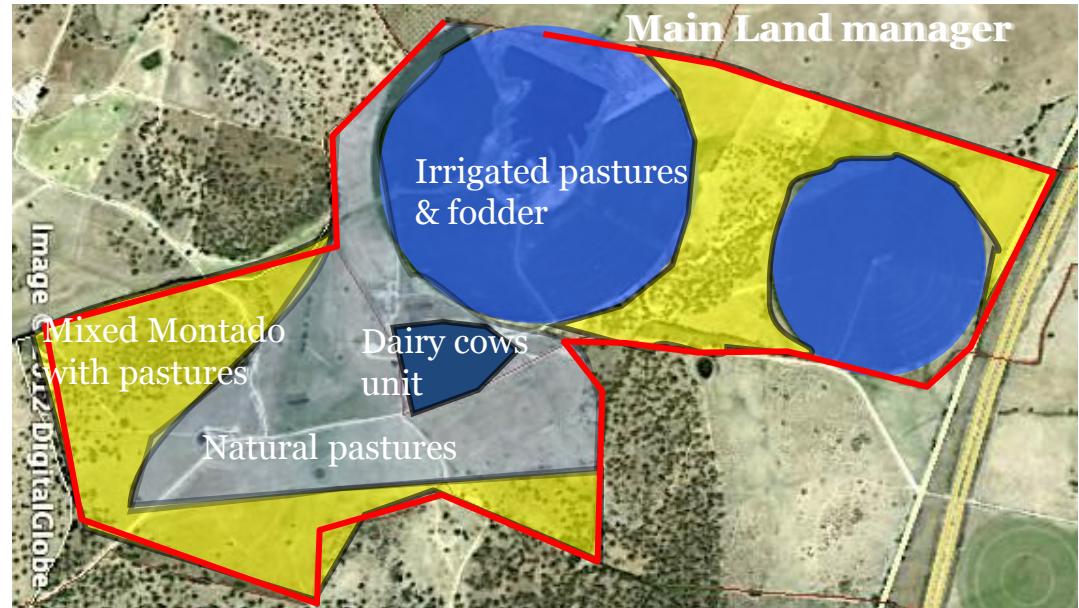
High investment capacity

**Promotion of touristic hunting
reserves**

**Sometimes not living in the farm
employees & sub land managers
– specialization**

LOW RESILIENCE

1. High Specialization
2. High dependency of external production factors
3. High Subsidy dependence



MULTIFUNCTIONAL INNOVATIVE

- Small to large farms (0-100 ha)

High education level

Urban background

Diversification perspective

Organic/quality production

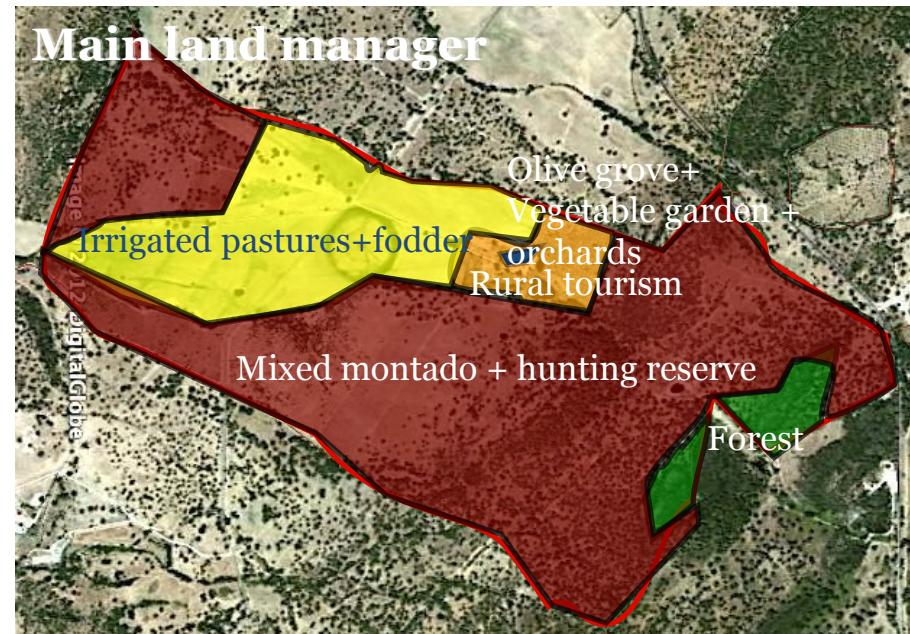
Land management towards their well-being, as a lifestyle

Full time land managers

High levels of decision and management

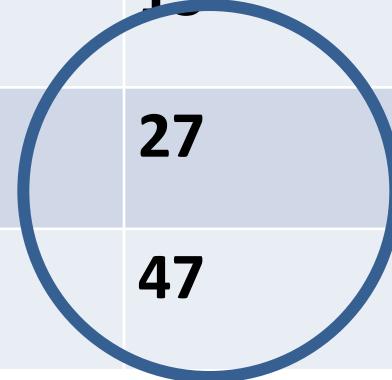
The MOST RESILIENTS

1. High diversification
2. Environmental friendly production
3. High succession possibilities.



Conservation concerns in management are NOT straightforward

	Number	% Area
Small scale	14	13
Multifunctional Innovative	13	13
Agri-Business Specialized	15	27
Conventional Extensive	28	47



74%

**some innovation in management,
but no transition to a multifunctional or conservation model**
>> fragility in face of changing policies and new pressures

The MONTADO is maintained, but production is still the driver of this landscape

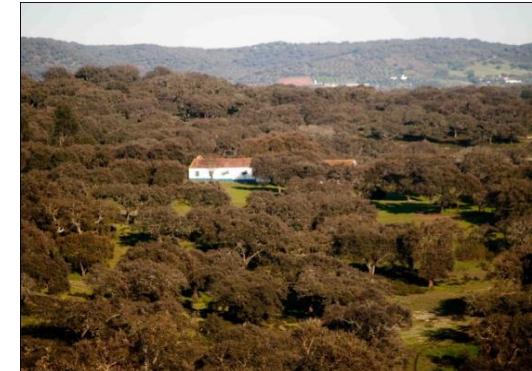
In the Montado, as in other peripheric rural regions of Europe, a landscape supporting relevant public goods **DOES NOT** mean conservation and multifunctionality are high in the management agenda

>> importance of the farmers self-concept

Failing to observe the productivist ideal can have a significant and direct impact on the social position of farmers within the agricultural community

their conservation care is grounded in awareness of

- . environmental constraints x heritage values
- .. lack of entrepreneurship
- ... property structure and tax system
- CAP support system



What happens with innovative initiatives ?

CRIE Montado

- Informal network landowners
- Start 2008
- Multifunctionality in farm management

Jan Huijgen – Versatile Farmers

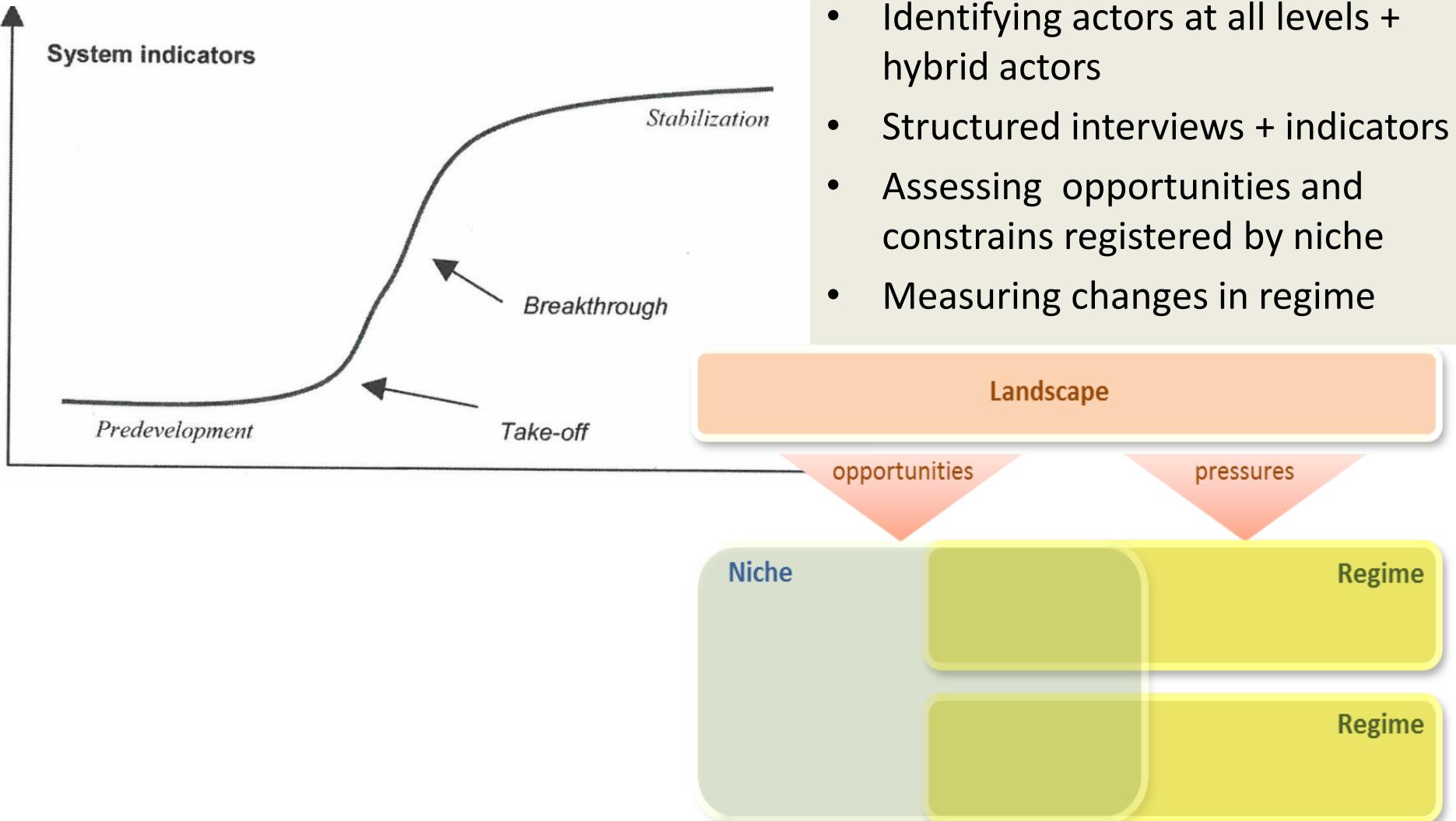
www.eemlandhoeve.nl

Valorização dos Recursos Silvestres do Mediterrâneo

- PROVERE – Estratégia de Eficiência Coletiva (EEC)
- Coordinator: CM Almodôvar and ADPM (Ass.Defesa Património Mértola)
- Start 2007



FarmPath >> Understanding the niche and assessing the anchoring



Strategic niche management

- Create and nurture niches
 - Protected space for experimentation
 - Allow for the co-evolution of technology, user practices and regulatory structures
 - Endogenous steering by range of actors
 - Niche emerge through collective enactment
- Focus on niche-internal processes
 - Articulation of expectations, visions
 - Building of social networks
 - Learning processes: technical aspects, symbolic meaning, infrastructure, user preferences

Transition management

- Focus on creating ‘transition arenas’
 - Strategic envisioning of sustainability development with niche and regime actors
 - Derive necessary transition paths
 - Carry out transition experiments, mobilise networks
 - Monitor, evaluate and learn, adjust vision
 - Focus on exploration (not solution), experimenting with various relevant aspects
- Goal: identify levers
 - Non-linear dynamics of transitions
 - Deliberative governance of transitions

CRIE Montado

- *Strenghtened ecological thinking in each farm : inspiration and management models
- *Increased cooperation among members: new comercial relations
- *Made multifunctionality at the farm level a clear concept in the regional context – for administration and practitioners
- *With no hierarchy, lack of functional leadership as a limitation

Valorização dos Recursos Silvestres do Mediterrâneo

- *Wild resources in farm systems progressively considered as a value
- * Spread of knowledge in production, transformation and marketing , as well as administrative paths
- *New farmer concept: diversified, entreprenor, competitive and environmental aware
- * Increased perceived value of networking
- *Made extensive farming in marginal area atractive for young farmers

CRIE Montado

Crescente procura de amenidades sociais

Preocupação sust agricultura
e segurança alimentar
Preocupação rel urbano/rural

Especialização
de mercados e
administração

GRANDES TENDÊNCIAS

PAC ainda
favorecendo
intensificação

Globalização mercados
Recessão económica

Oportunidades

- Movimento internacional agric multifuncional
- Versatilidade das propriedades
- Ideologias "Verdes"

Pressões

- Pressão Económica, intensificação, especialização
- Dificuldade de acesso a capital de investimento
- Elevados níveis de burocracia

CRIE Montado

Agricultura Multifuncional

Empresários agrícolas
(grande propriedade)

Novos modelos de
gestão da
propriedade

Troca
conhecimentos

Colaboração
Informal

Abordagens
ecológicas nas
propriedades

Actor

Processo

Pacientes

Escolas

Municípios

Enq. Legal

Turistas
Visitantes

Ass. Zoos

Caçadores

Recolectores
Extratores
Apicultores

Produtores
biológicos

Dir. Reg. Agric

Certificação
Biológica

Rede Rural

Universidade
Évora

Proprietários
Montado

Setor
agrícola

Consumidores
'alternativos'
(Lisboa)

Associações
setoriais

Setor
cortiça

Enq. Legal

Proprietários
Montado

Setor
cortiça

Recreativo/Re-colecção/Caça

Enq. Legal

Municípios

Turismo

Caçadores

Recolectores
Extratores
Apicultores

Agro-Alimentar

Florestal

Recreativo/Re-colecção/Caça

Crescente procura prod. diferenciados

Preocupação sustentabilidade da agricultura

PAC ainda favorecendo intensificação e agric grande escala

Preocupações
Conservação

GRANDES TENDÊNCIAS

Globalização
dos mercados

Recessão
Económica

OPORTUNIDADES

Programa PROVERE e fundos PRODER
Áreas de Conservação
Disponibilidade de Terra

PRESSÕES

Declínio peq agricultura / Menores rendimentos e
emprego agrícola
Crescente atracção por utilizadores urbanos
Falta de sucessores nas propriedades

PROVERE

Projeto PROVERE

Valorização Recursos Silvestres

CEVRM

Promotores

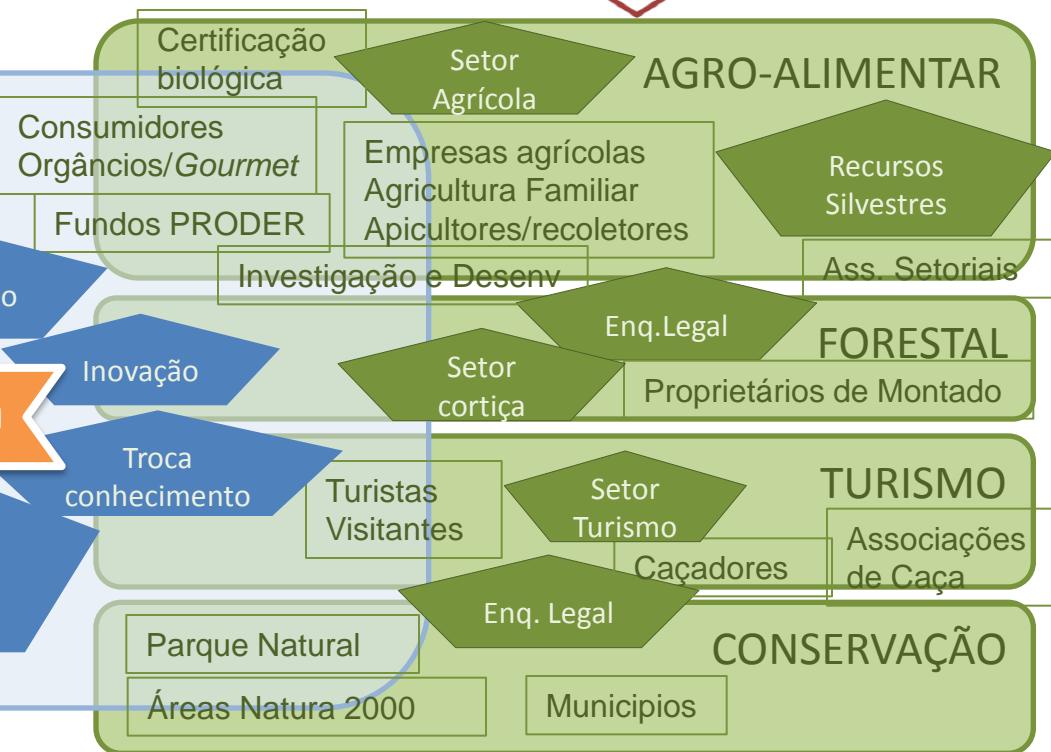
ADPM

CM Almodôvar

Capacitação de
empreendedores
agrícolas

Colaboração

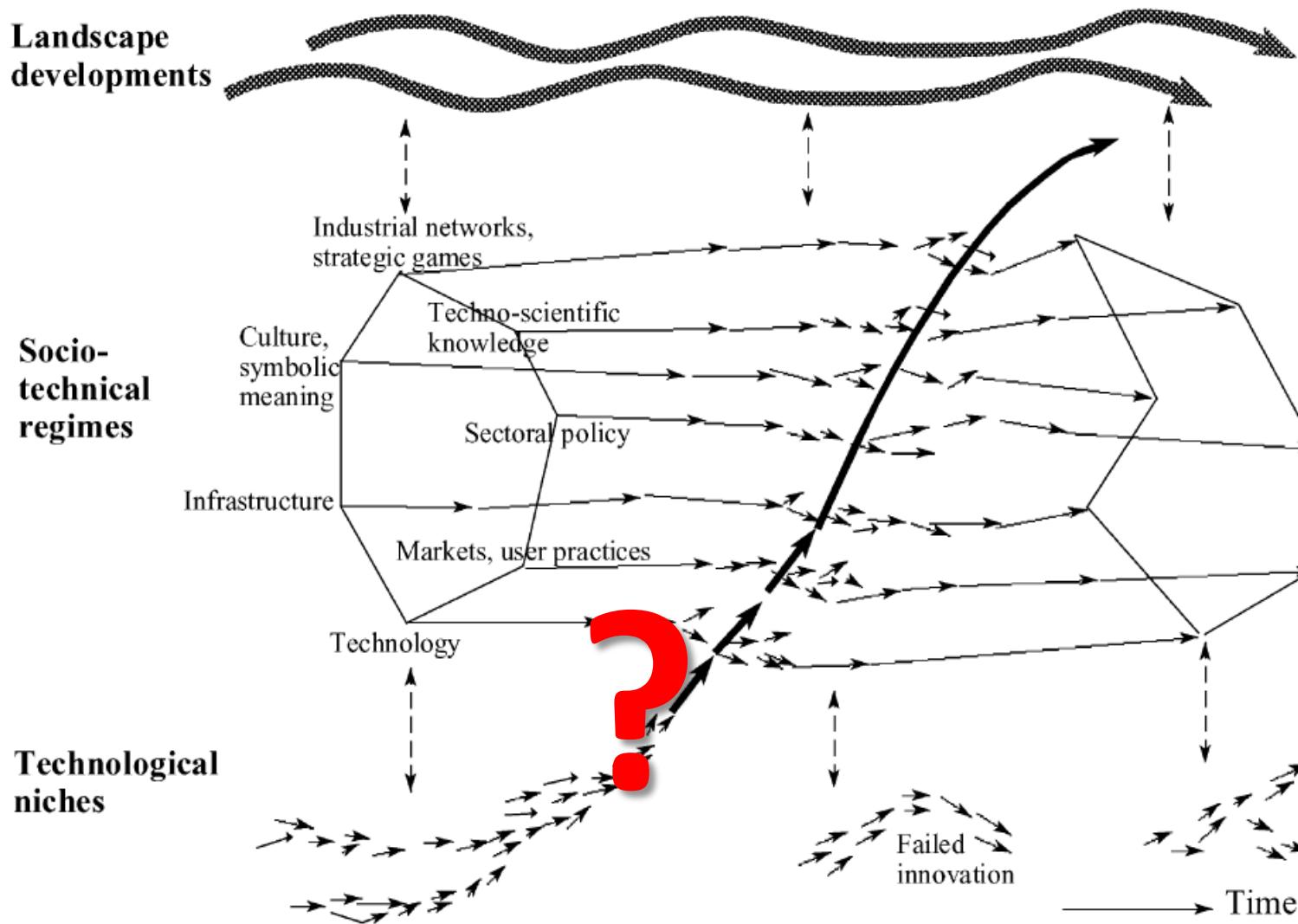
Inovação
Troca conhecimento
Abordagens ecológicas na produção



Processo

Actor

The two niches are well established, but...



...the regime is hardly changing

Where are the gaps ? ...in niches and in regimes

- **ACTORS** - Hybrid, multi-level actors are crucial
 - and leadership at niche level needs to be strong
- **CONFIDENCE** - Technical knowledge needs to be easily accessible: effective and context based extension needed
- **POWER** - Some regimes are dominant in relation to others and conservation regime is the weakest player: no interaction or interaction is biased so anchoring is limited
- **TRANSPARENCY** – Regime opening often stay in the discourse, or is directed to a smaller group and goals of action not always clear
- **COERENCE** - Opportunities in the regime are only valid in the long term if assumed by the whole regime: when imposed, or when they are weak, they may act but some actors in the regime will resist
- **PRESSURE** – if global public opinion stops pressing, regime will reduce opening

Oportunities are being lost

The established mindset is not only the one of farmers, but also the one of many other regime actors

>> change in management paradigms require a transition pathway where multiple factors need to play together

a new challenge for multi scale governance

a new challenge for transdisciplinary research

THANKS

ook through

