



Webinar

Investimento em floresta autóctone em minifúndio

14 DE SETEMBRO

14:30 - 16:30 ZOOM

Gestão agrícola e florestal e serviços de ecossistemas: o papel da PAC

José Lima Santos



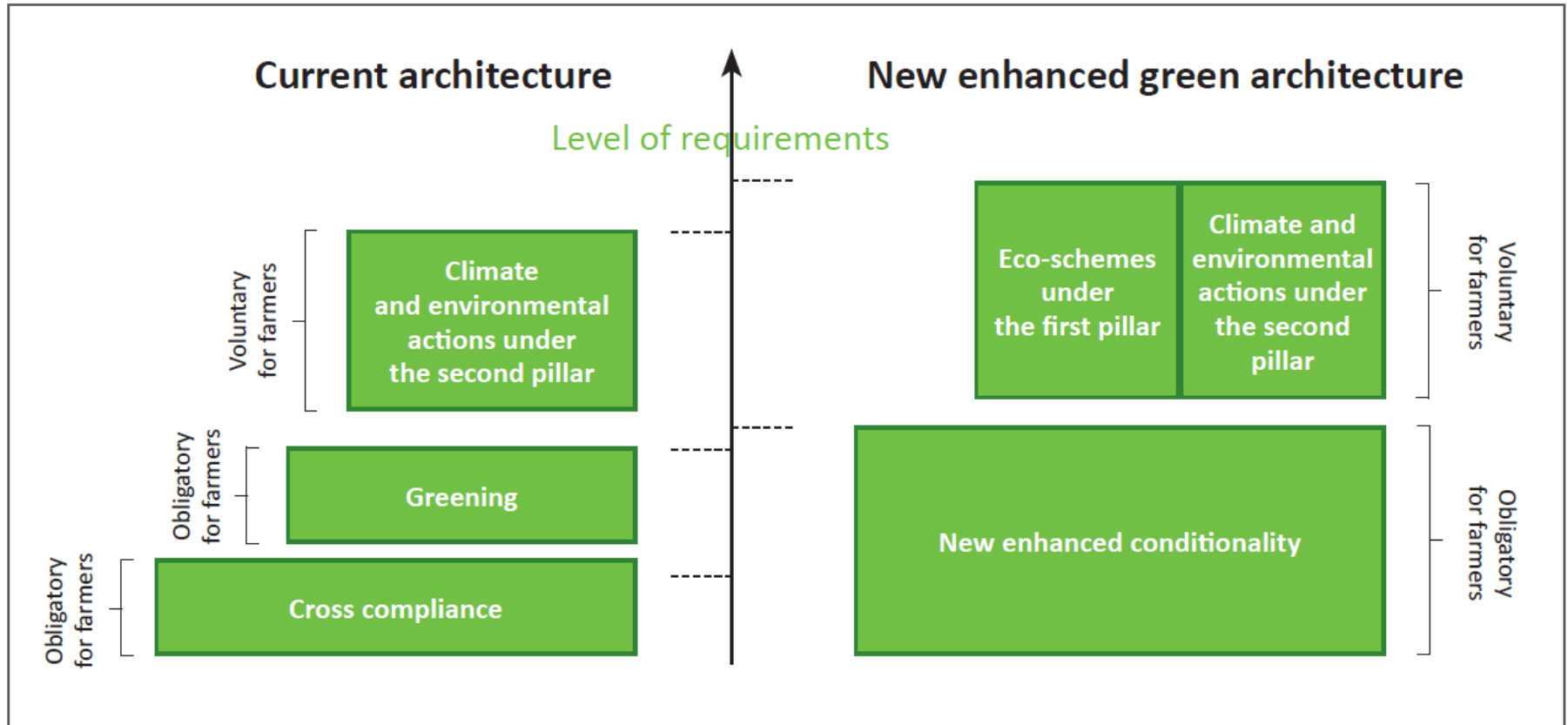
INSTITUTO
SUPERIOR DE
AGRONOMIA
Universidade de Lisboa

Tópicos da apresentação

1. A nova arquitetura verde da PAC
2. Gestão agrícola e florestal do território e perigo de incêndio: implicações para as políticas de apoio
3. Pagar por sistema de produção: uma alternativa para os novos “Eco-regimes” para gerir trade-offs entre custos administrativos e eficácia nos resultados

1. A nova arquitetura verde da PAC

The new green architecture of the CAP



Source: Wrzaszcz, W., & Prandecki, K. (2020). Agriculture and The European Green Deal. *Zagadnienia Ekonomiki Rolnej/Problems of Agricultural Economics*, (4).

USING ECO-SCHEMES IN THE NEW CAP

▶ A GUIDE FOR MANAGING
AUTHORITIES



3.2.9 CHOOSING THE PAYMENT MODEL AND CALCULATING PAYMENT RATES TO ACHIEVE TARGET UPTAKE

The Eco-scheme approach presents managing authorities with two models to pay for environmental and climate commitments.

The first option is a top-up to the basic income support which provides significant flexibility at first sight. Managing authorities should be able to clearly justify that the payment is compliant with Annex 2 to the WTO Agreement on Agriculture (covered by Article 10 and Annex II of the Commission proposal). Furthermore, care should be taken to ensure the payment is calculated based on the actual or expected results to be achieved rather than as a supplementary form of direct payment, which risks not delivering value for money.

The second option is the established model for agri-environment-climate payments. This option is often criticised for only covering income foregone and additional costs, which are perceived to offer too weak an incentive to encourage high levels of participation in order to deliver the objectives of a scheme. However, this payment model has much greater flexibility to incentivise uptake than may first appear. In particular, there is greater scope to take account of opportunity costs where alternative, less desirable production practices and farm management systems are no longer possible as a result of scheme participation. The strong criticism of this established model and the difficulty of determining how payments are set in different Member States suggests that the inclusion of 'opportunity costs' has not been sufficiently applied. Furthermore, payments can be determined on a regional or local level with target values linked with a higher level of payment to enable a certain level of participation to be reached.

4. WHAT KIND OF INTERVENTIONS COULD BE USED FOR ECO-SCHEMES?

4.1 Considerations for selecting interventions

4.2 Examples of possible Eco-scheme interventions

4.2.1 *Conditionality plus*

4.2.2 *Individual interventions for different purposes – a hierarchical approach*

4.2.3 *Bundles of individual interventions*

4.2.4 *Results-oriented interventions*

4.2.5 *Points-based schemes*

4.2.6 *Farm assurance schemes*

4.2.7 *High environmental value*

4.2.8 *Conservation agriculture*

4.2.9 *Integrated management*

4.2.10 *Circular agriculture*

4.2.11 *Organic farming*

4.2.12 *Pasture-fed livestock production*

4.2.13 *High Nature Value (HNV) farmland including Natura 2000*

4.2.14 *Agroforestry*

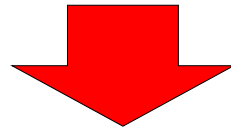
4.3 Comparative assessment of Eco-scheme intervention options

2. Gestão agrícola e florestal do território e perigo de incêndio:

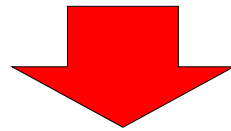
implicações para as políticas de apoio

O driver económico: produtividade do trabalho na agricultura e grandes incêndios rurais

Produtividade do trabalho na agricultura (o driver)



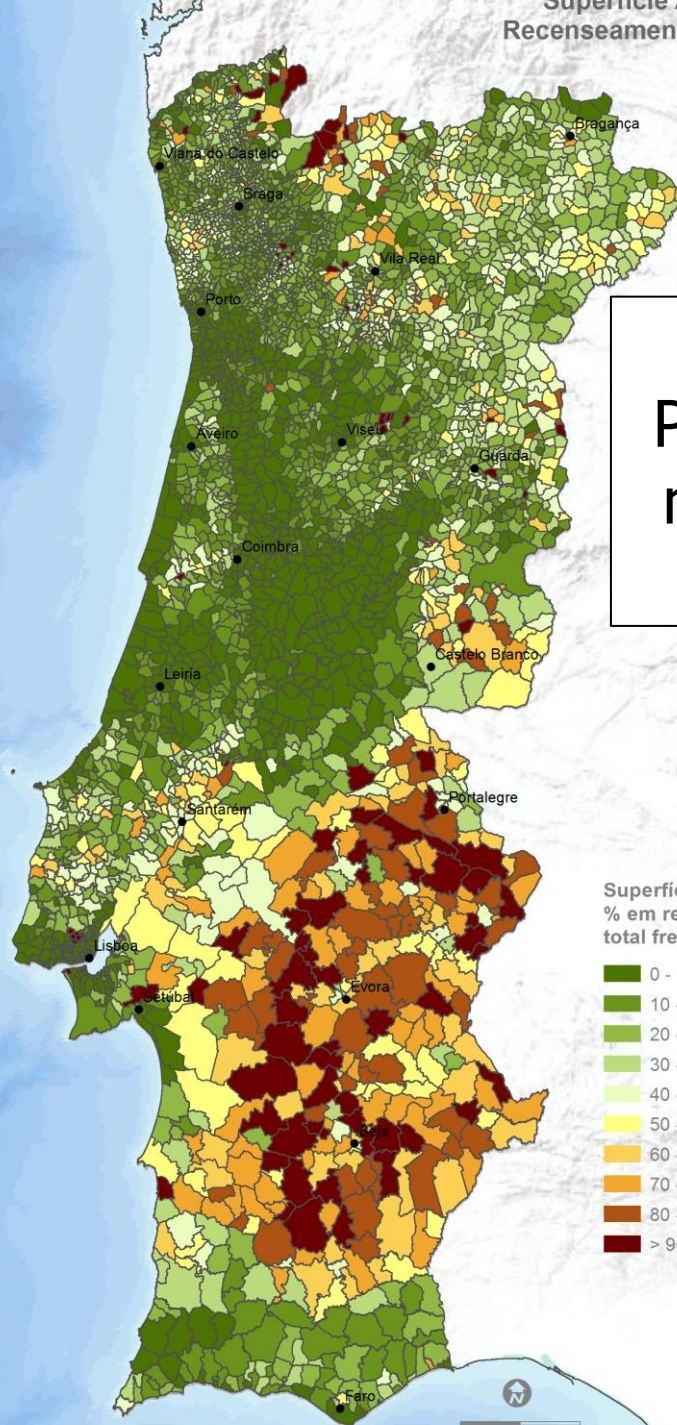
Peso da área agrícola na paisagem (Uso do solo)



Perigo de incêndio (a consequência)

Driver:
Produtividade do
trabalho na agricultura
(2009)

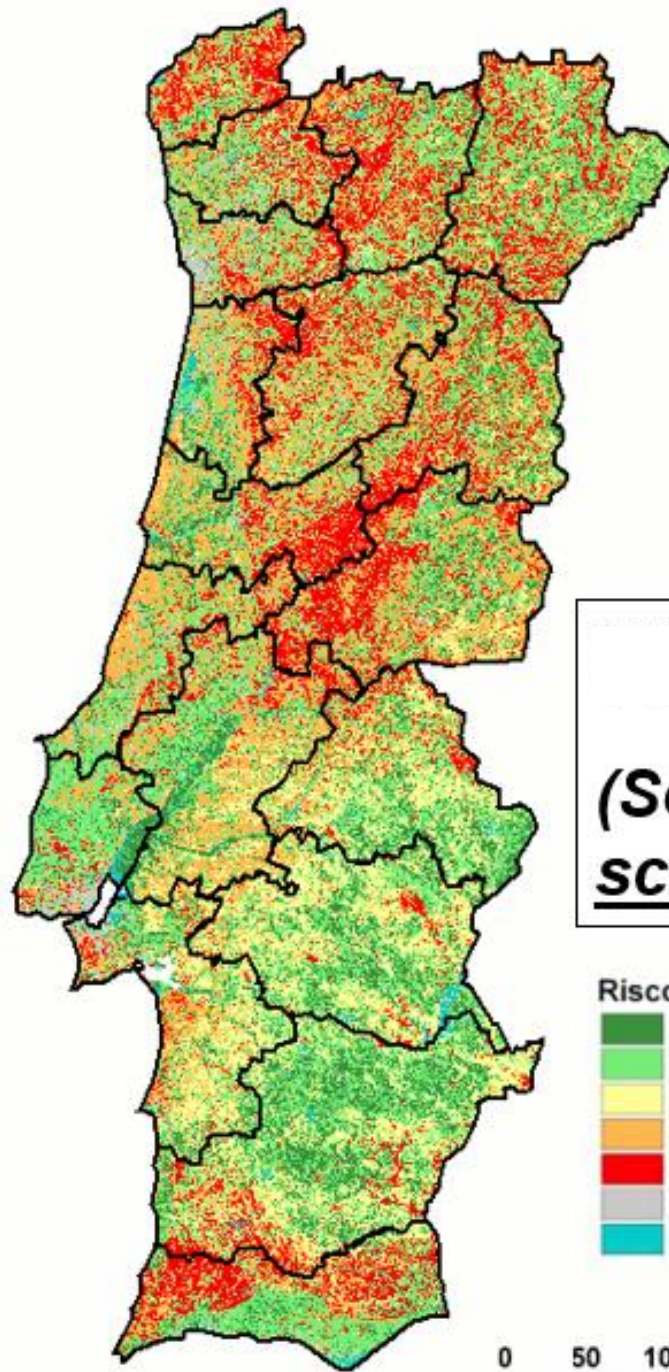




LULC:
Peso da agricultura
na paisagem 2009
(%)

Superfície Agrícola Utilizada
% em relação à área
total freguesia

- 0 - 10 %
- 10 - 20 %
- 20 - 30 %
- 30 - 40 %
- 40 - 50 %
- 50 - 60 %
- 60 - 70 %
- 70 - 80 %
- 80 - 90 %
- > 90 %

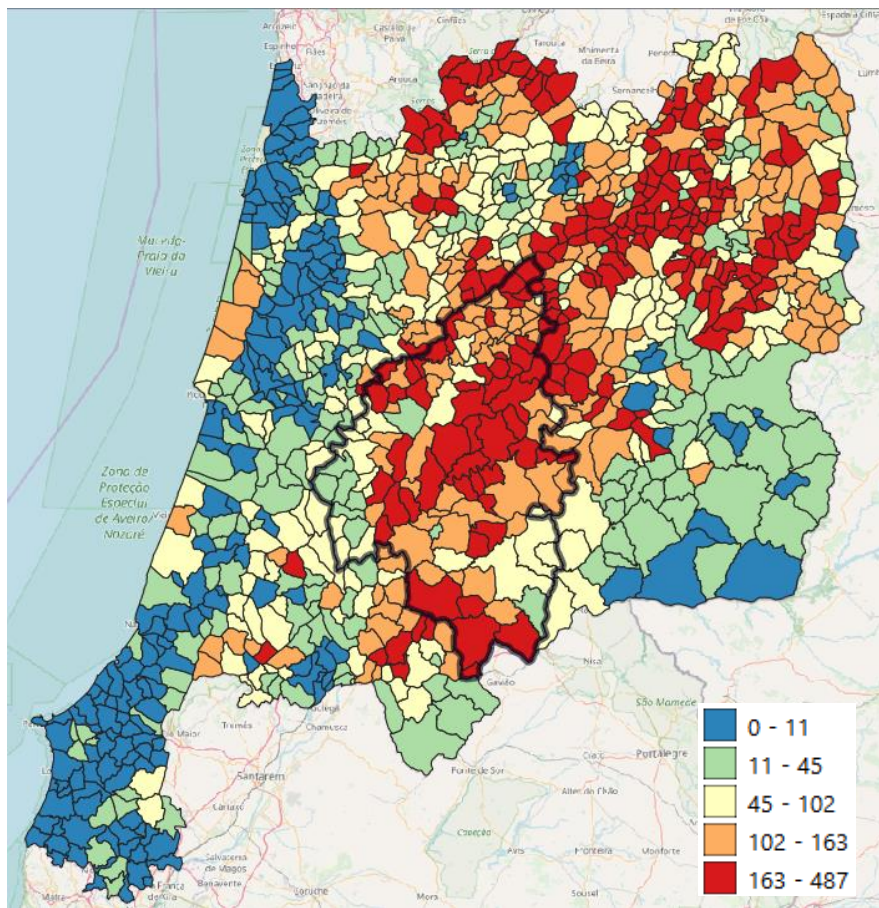


A consequência:
Perigo de incêndio
2009

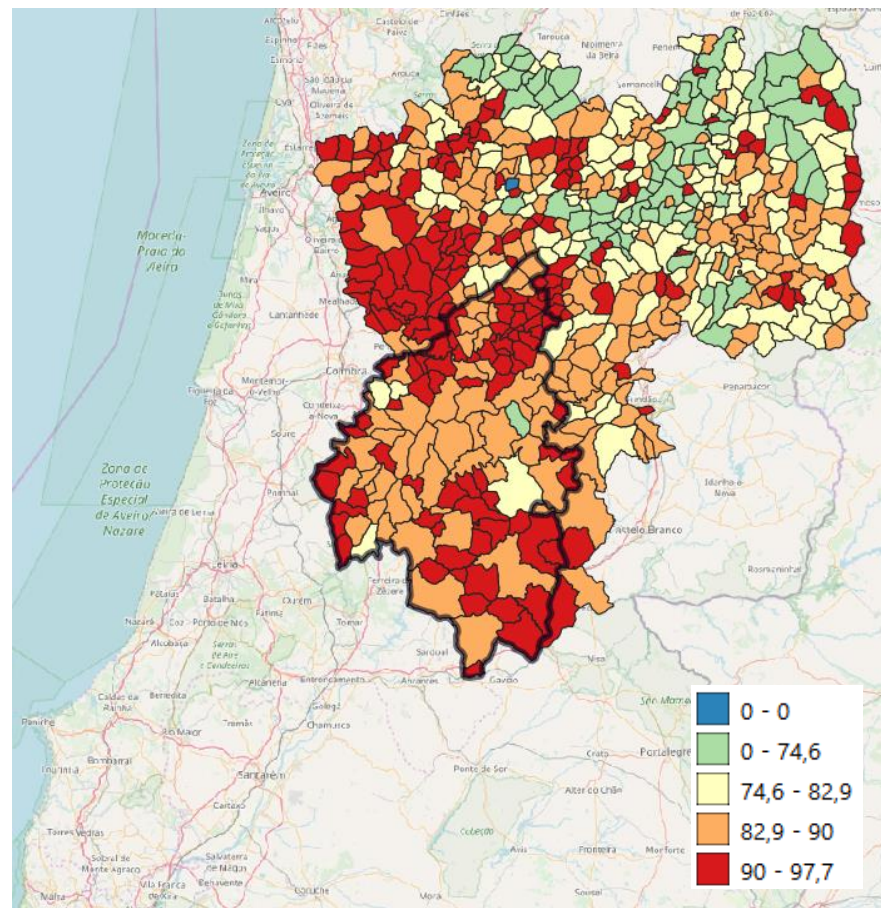
(Source:
scrif.igeo.pt)



0 50 100 150 200 Km



Área ardida acumulada em 44 anos (1975-2018; em percentagem da área da freguesia)



Concentração da área ardida em anos de grandes incêndios (índice de Gini; 1975-2018)

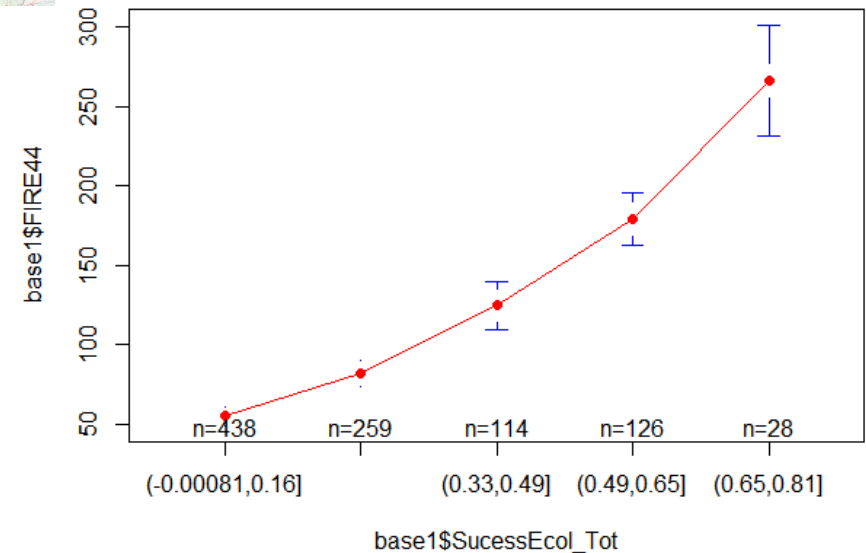
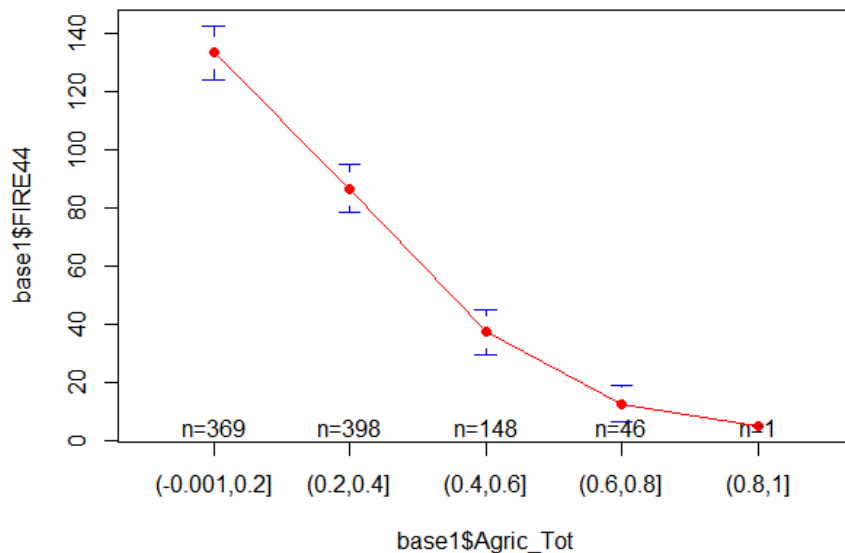
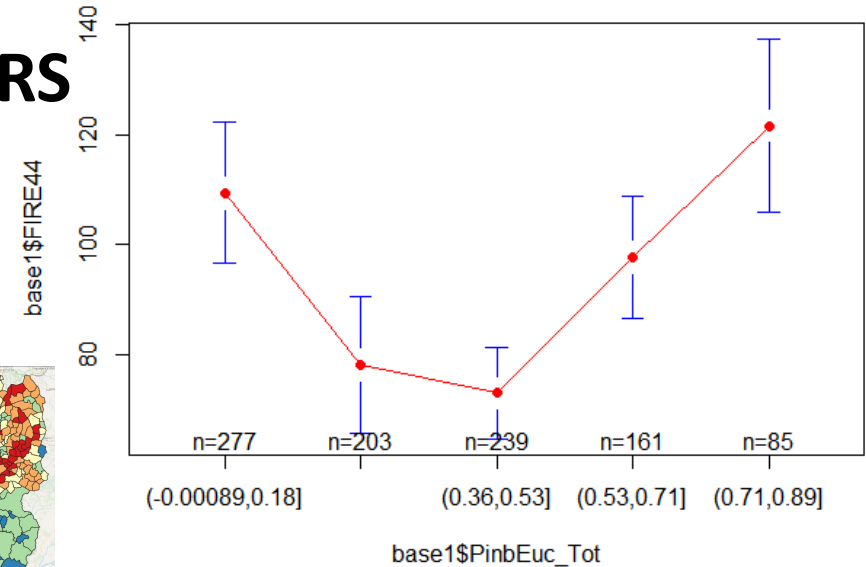
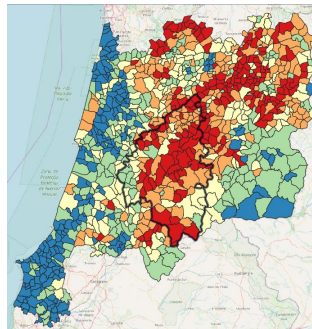
ÁREA ARDIDA ACUMULADA (Região Centro) e seus DRIVERS

Agric_Tot = CTSeqReg + Arrozais + Vinhas + Pomares +
Olivais + PastPerm + CTePastCP + SisParcComplex

PinbEuc_Tot = FlorPinBrv + FlorEuc

SucessEcol_Tot = FlorSob + FlorAzi + FlorCarv + FlorCast + FlorInvas +
FlorOutF + VegHerbNatur + Matos

% da AT da freguesia



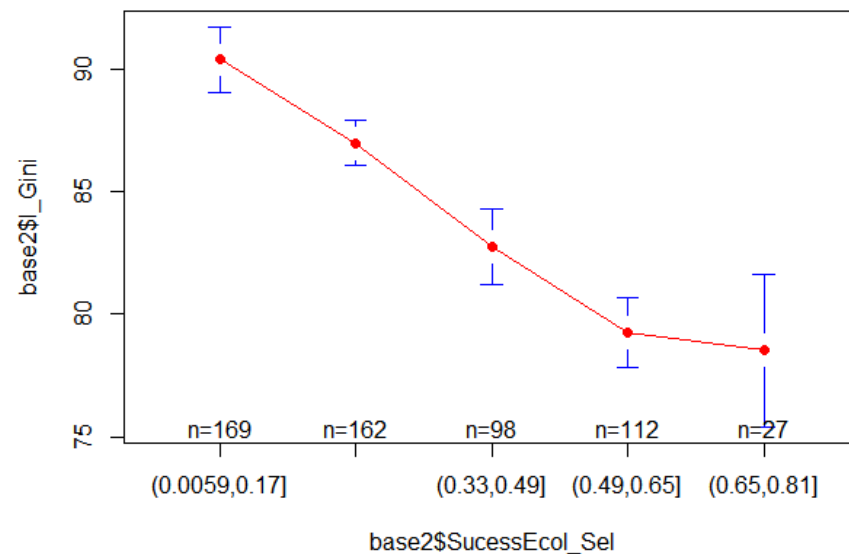
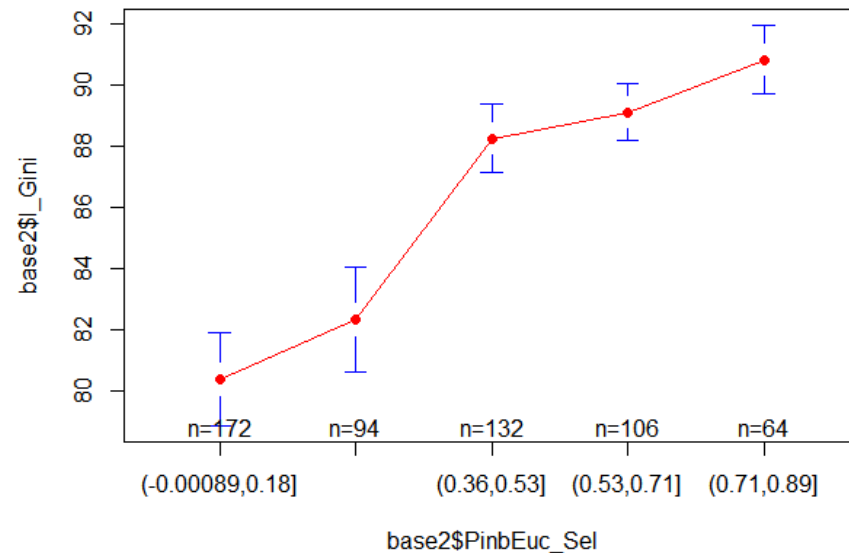
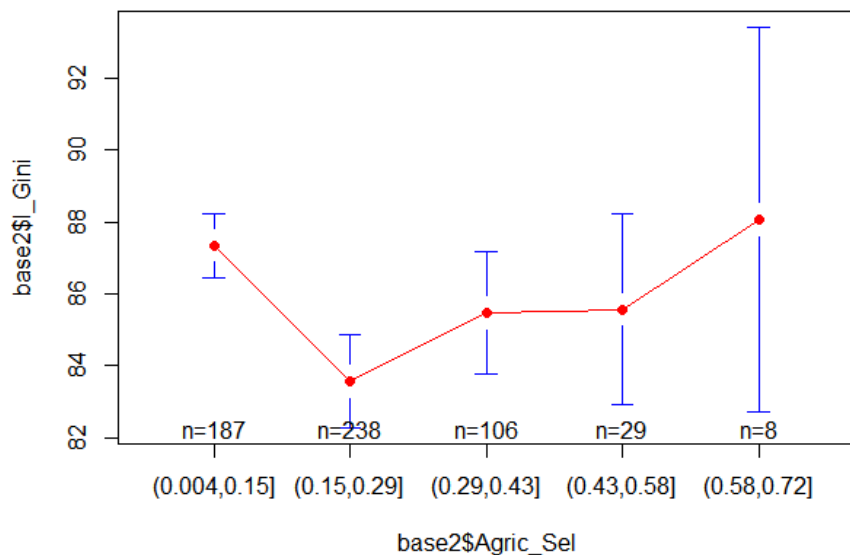
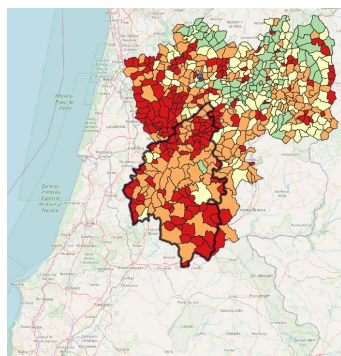
CONCENTRAÇÃO DA ÁREA ARDIDA E SEUS DRIVERS (na área que arde mais)

Agric_Sel = CTSeqReg + Arrozais + Vinhas + Pomares + Olivais + PastPerm + CTePastCP + SisParcComplex

PinbEuc_Sel = FlorPinBrv + FlorEuc



SucessEcol_Sel = FlorSob + FlorAzi + FlorCarv + FlorCast + FlorInvas + FlorOutF + VegHerbNatur + Matos

% da AT da freguesia



Article

A Choice-Modeling Approach to Inform Policies Aimed at Reducing Wildfire Hazard through the Promotion of Fuel Management by Forest Owners

José L. Santos, Ana Martins ^{*} , Ana Novais and Maria João Canadas 

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Table 1. Attributes and attribute levels used in the choice experiment.

| Attributes | Variable | Attribute Levels | Description |
|--|----------------|------------------|--|
| Delivering a proportion of land area to be included in fuel breaks; these would be implemented and kept by a common entity, which would support the implementation and maintenance costs | Fuel break | 0 | No loss of productive area |
| | | 15 | 15% loss of productive area |
| | | 30 | 30% loss of productive area |
| Clean shrubs each 5 years in all area managed by the owner | Shrub clearing | No, yes | Not required by law, but would become mandatory after subscribing the contract |
| Payment level | Payment | 20 | Monetary value (EUR/ha/year) to be received for the subscription and compliance with the fuel management commitments |
| | | 80 | |
| | | 200 | |
| | | 500 | |


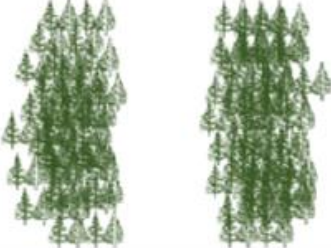


| WITHOUT CONTRACT | WITH CONTRACT |
|--|---|
|  <p data-bbox="407 348 823 389">Without open area requirement</p> |  <p data-bbox="1599 287 1740 404"><u>15 %</u> Open Area (implementation by the common entity)</p> |
|  <p data-bbox="552 589 823 682">Without shrub cleaning requirement</p> |  <p data-bbox="1466 565 1740 708"><u>WITH</u> shrub cleaning each 5 years (implementation by the owner)</p> |
| <p data-bbox="359 786 823 843">Without receiving payment</p> <p data-bbox="653 875 813 932">0 €/year</p> | <p data-bbox="1319 786 1740 843">Payment to be received:</p> <p data-bbox="1000 875 1740 932">80 €/ha.year x _____ ha = _____ €/year</p> |

Figure 1. Example of a choice card (to be completed before the choice) according to the area of each respondent).

Table 4. Estimated minimum payment required by an owner to subscribe each particular commitment.

| Commitment | Owner Type | | Marginal Effect of Being Active |
|---|------------|--------|---------------------------------|
| | Nonactive | Active | |
| Delivering 15% of land to be integrated in a fuel break | 37.5 | 97.5 | 60.0 |
| Delivering 30% of land to be integrated in a fuel break | 75.0 | 195.0 | 120.0 |
| Delivering 50% of land to be integrated in a fuel break | 125.0 | 325.0 | 200.0 |
| Delivering all land to be integrated in a fuel break | 250.0 | 650.0 | 400.0 |
| Scrub clearing once in 5 years in all land | 343.3 | 186.5 | -156.8 |

Notes: All figures in the table are average willingness-to-accept in EUR/hectare of owned land/year, as predicted with the estimated model. Note that our WTA estimates for 50% and all land delivered for a fuel break correspond to predictions outside our data range. Although the null hypothesis of a linear relationship between the dependent and X_1 variables could not be rejected for the data range, this may hold or not outside this range.

Table 5. Marginal cost calculation using combined fire and choice models for shrub clearing every five years.

| | | Shrub-Clearing Levels | | |
|---|------------------|-----------------------|----------|---------|
| | | Present Situation | Moderate | High |
| Parish area under shrub management (%) | (1a) | 22.0% | 32.3% | 40.8% |
| Parish area under shrub management (ha) | (1b) | 1610 | 2364 | 2980 |
| Avoided burned area (ha/year) [68,69] | (2) | - | 68.3 | 102.7 |
| Marginal reduction in burned area (ha/year) | (3) | - | 68.3 | 34.4 |
| Using our Choice Model | | | | |
| Payment level (EUR/ha/year) | (4) | 0 | 111.5 | 207.5 |
| Total public expenditure (EUR/year) | (5) = (4) × (1b) | 0 | 263,069 | 618,993 |
| Marginal Cost (MgC) | | | | |
| MgC, marginal expenditure to increase shrub management from the previous level (EUR/year) | (6) | 0 | 263,069 | 355,924 |
| MgC per avoided burned area (EUR/ha/year) | (7) = (6)/(3) | 0 | 3852 | 10,347 |

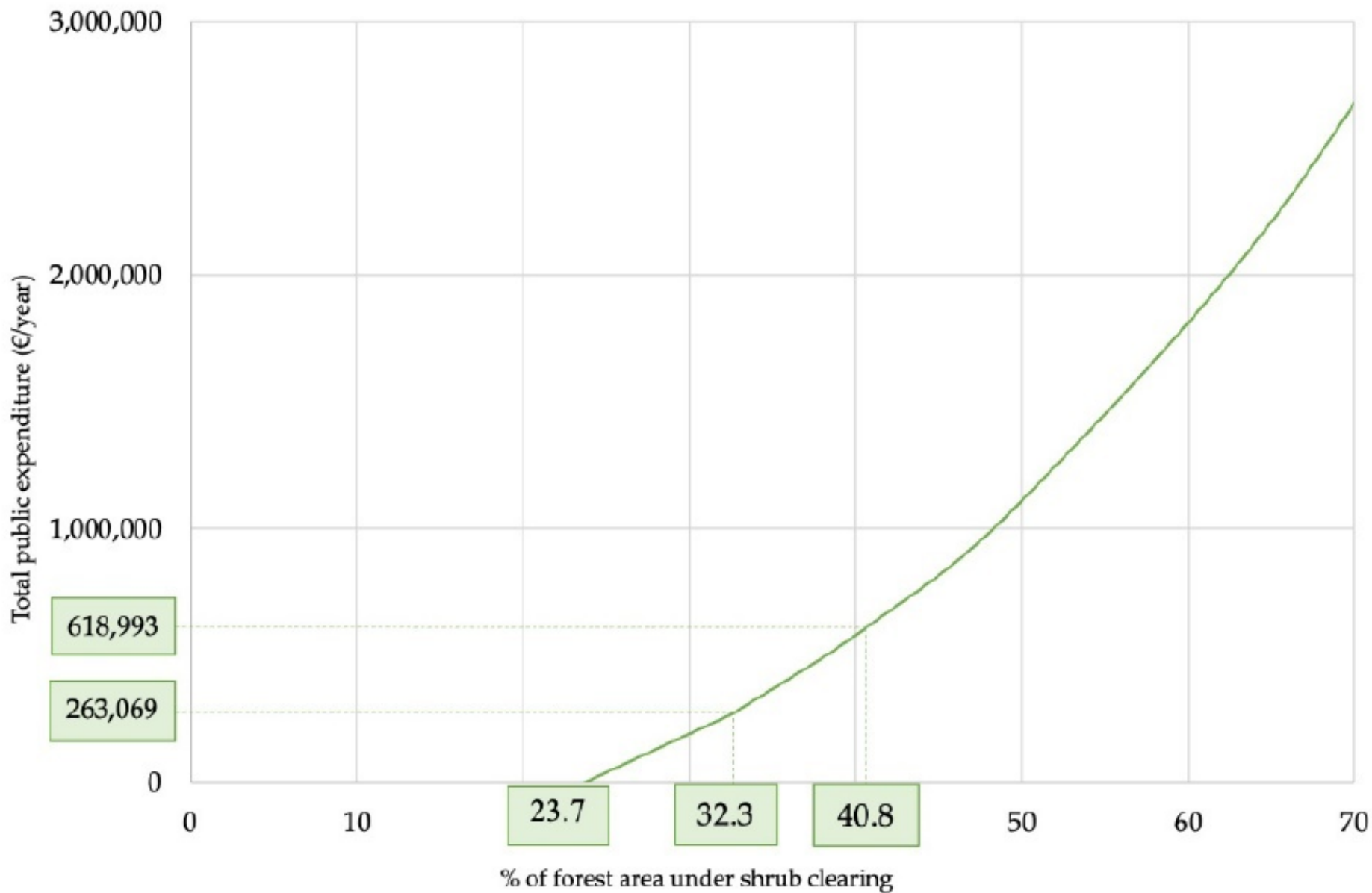


Figure 2. Public expenditure curve for shrub clearing by forest owners in the parish as a whole.

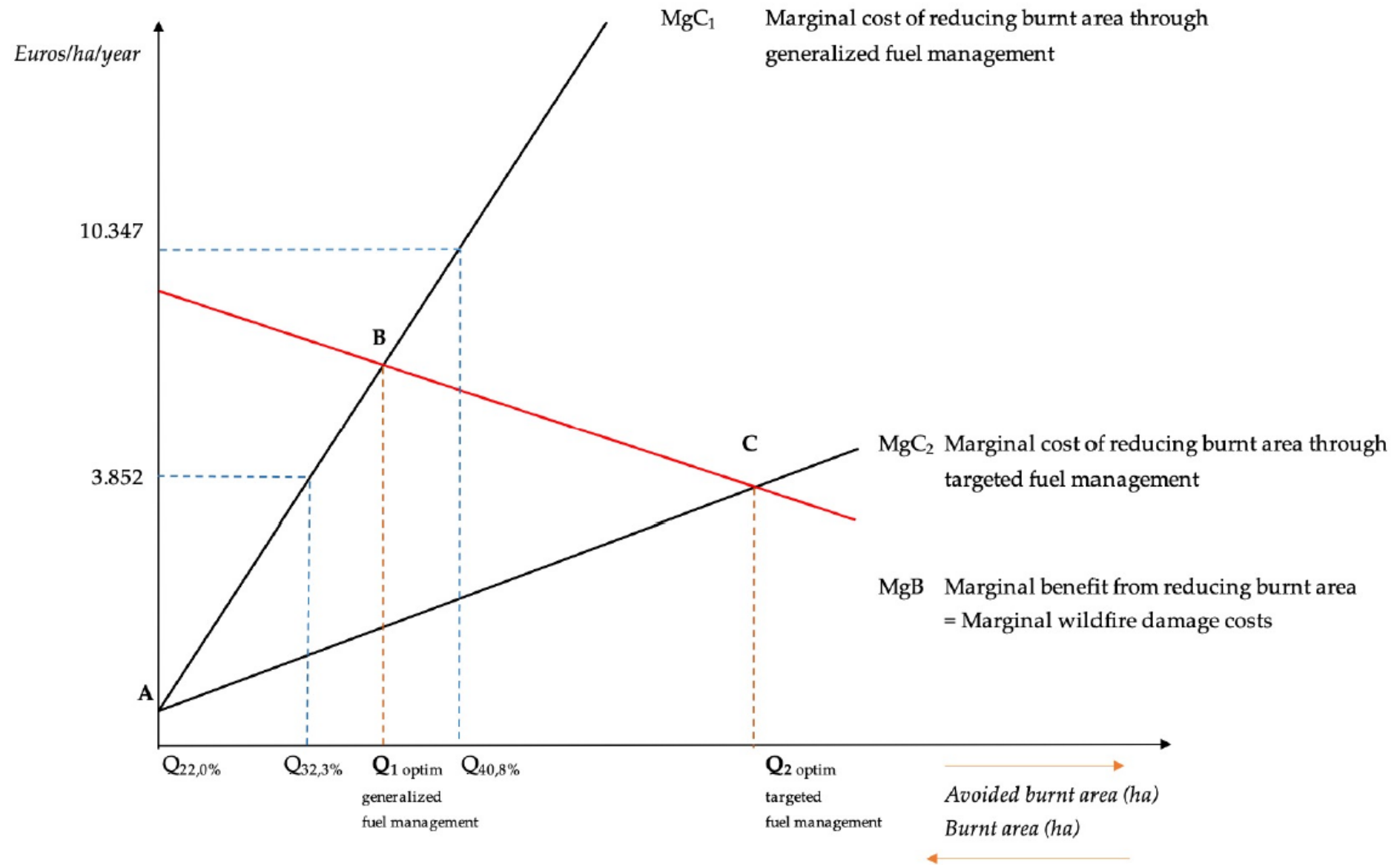


Figure 3. Marginal benefits and marginal costs of avoided burned area (EUR/ha/year). Avoided burnt areas corresponding to three fuel management levels: $Q_{22,0\%} = 0$, current situation, $Q_{32,3\%}$, moderate level, and $Q_{40,8\%}$, high level. Two optimal levels of fuel management: Q_1 , with generalized fuel management, and Q_2 , with targeted fuel management (only where it has the highest effect). Note these are simplified (not empirically estimated) curves, for illustrative purposes alone.

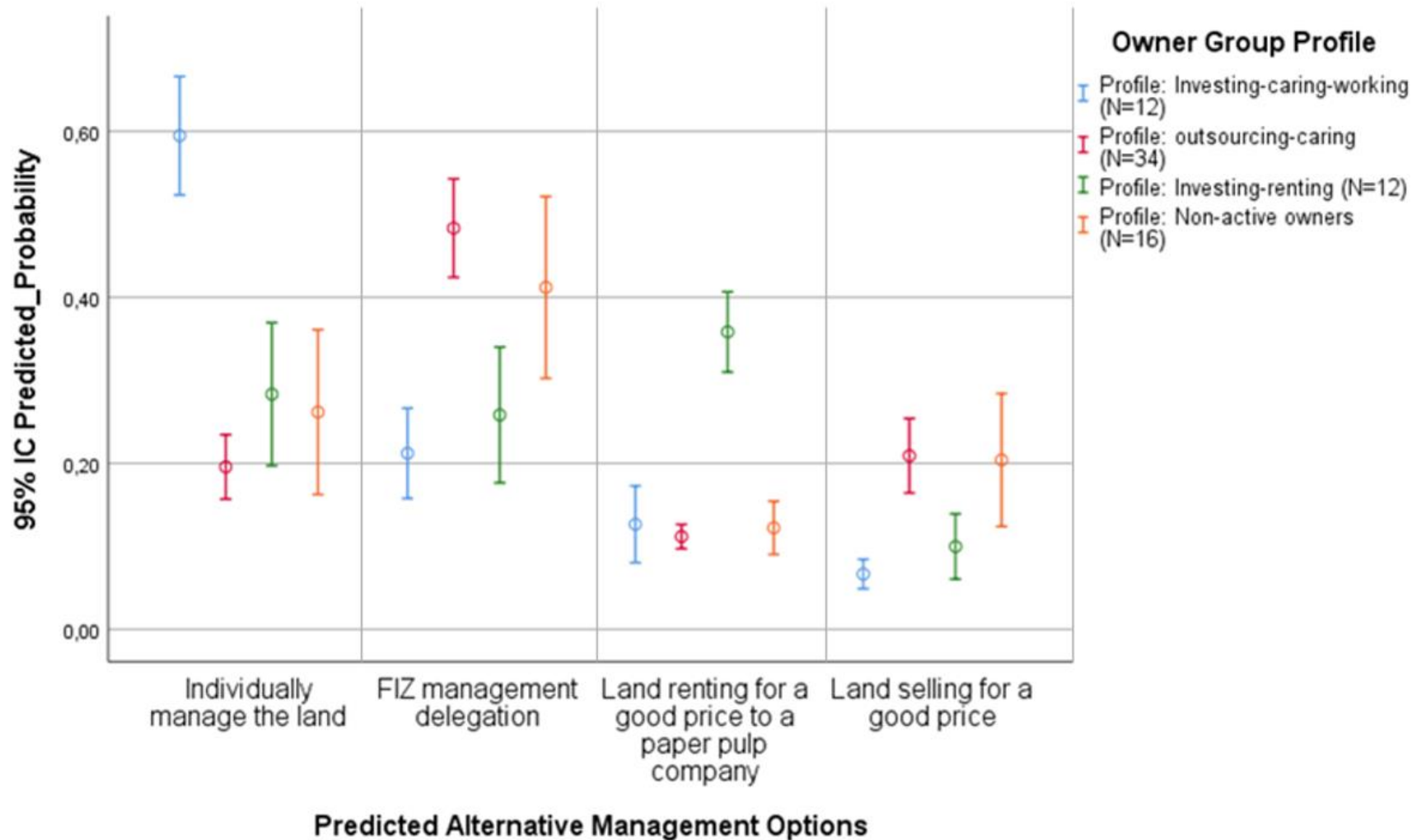


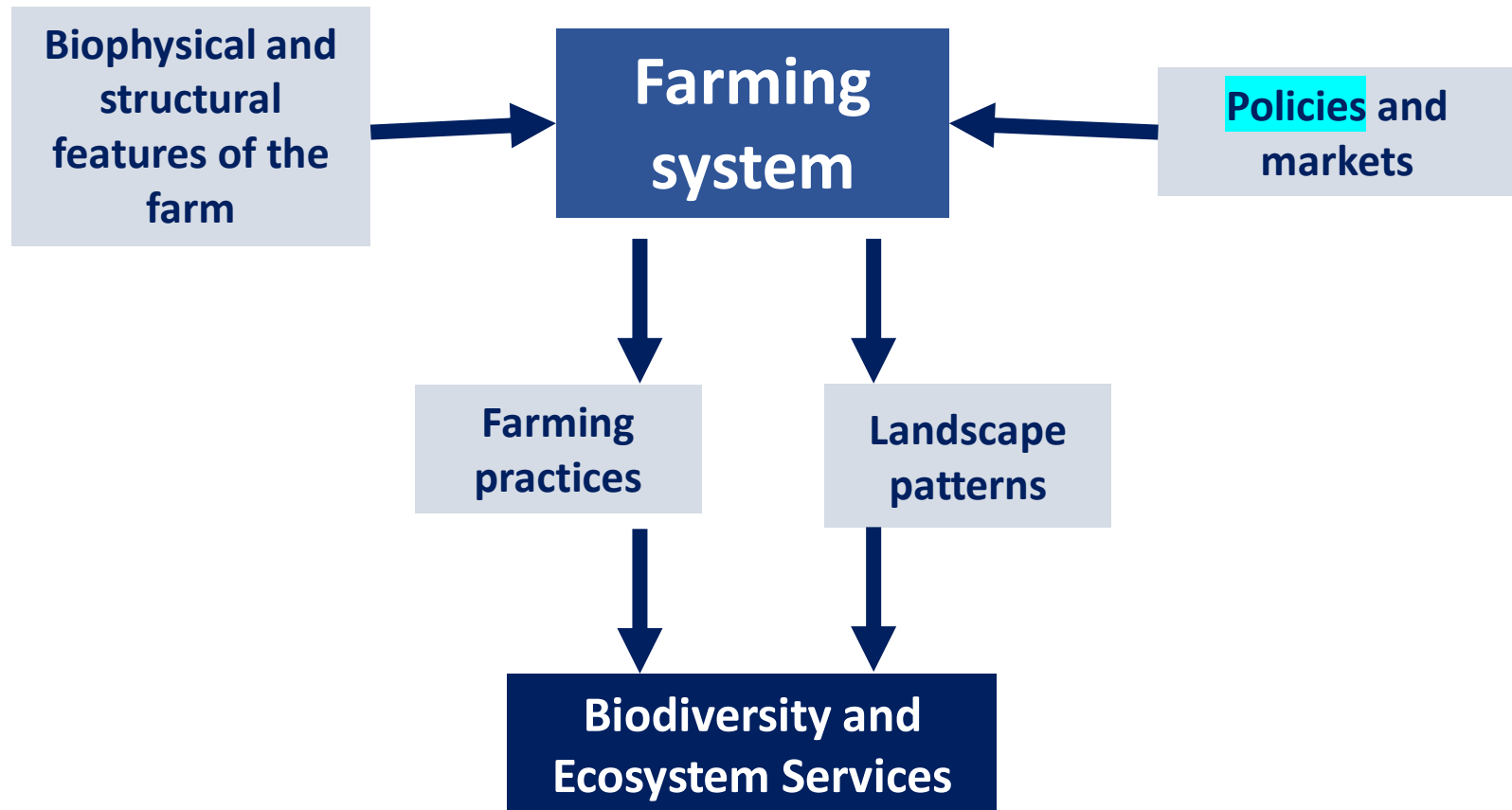
Figure 2 – Average of the predicted alternative management options for each owners' profile

3. Pagar por sistema de produção:

uma alternativa para os novos “Eco-regimes” para gerir trade-offs entre custos administrativos e eficácia nos resultados

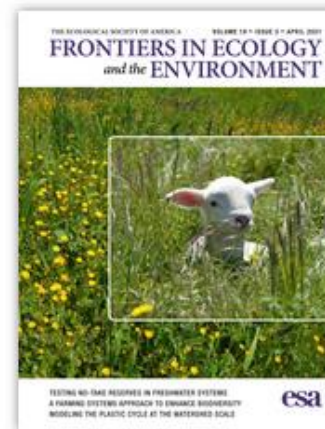
A FARMING SYSTEM APPROACH

From policies to environmental results through farmers' CHOICES



THE ECOLOGICAL SOCIETY OF AMERICA

Frontiers in Ecology and the Environment



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Pages 168-175

A farming systems approach to linking agricultural policies with biodiversity and ecosystem services

José L Santos¹, Francisco Moreira^{2,3*}, Paulo F Ribeiro¹, Maria J Canadas¹, Ana Novais¹, and Angela Lomba²

Many countries are reshaping their agricultural policies to better enhance biodiversity and ecosystem services (BES) in farmlands, but measuring the effectiveness of policy instruments in BES delivery is challenging. Using the European Agricultural Policy as an example, we propose the application of a farming systems (FS) approach as a cost-effective tool for linking policy design and expected BES outcomes. On the basis of available data from subsidy payment agencies, such an approach can identify groups of farms that share similar management practices as well as the associations between FS and corresponding BES potential, and improve modeled outputs of farm management responses to policies and other drivers of change. We describe how this relatively unexplored source of information can help to support applied ecological research and relevant policy, and call for these data to be made available across Europe and elsewhere.

Payments linked to:

**Farming
system**

**Specific
farming
practice**

**Environmental
result**

Transaction costs

Environmental effectiveness

Step-by-step policy design:

1. Define study area (at regional/local scale) and the relevant environmental priorities (e.g. reduce wildfire risk, conserve threatened species, or promote soil health);
2. Build a farming system typology (using e.g. “IFAP data”);
3. Select those farming systems that are more relevant to address the environmental priorities based on:
 - Farming practices that are relevant for those priorities;
 - Landscape patterns;
 - Direct biodiversity or ecosystem-service indicators.
4. Assess the current dynamics of the relevant farming systems:
 1. Stable and with sufficient cover? → doing nothing (monitoring);
 2. Decline trend or insufficient cover? → Implement payments for those farming system using e.g. **Eco Schemes**

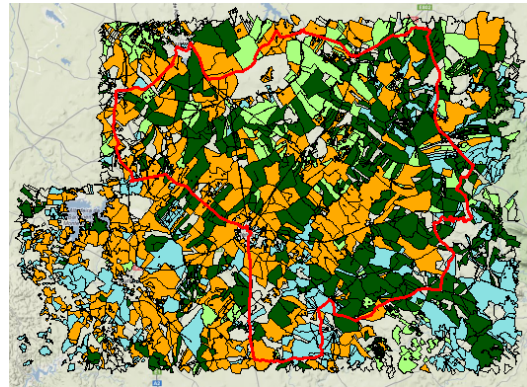
Building the farming system typology:

1. Obtain “IFAP-type data”, preferably spatially-explicit time-series farm-level data covering recent periods with policy change;
2. Define relevant land use and livestock variables;
3. Run a farm-level cluster analysis;
4. Assess the results and establish the typology (number of clusters/types)

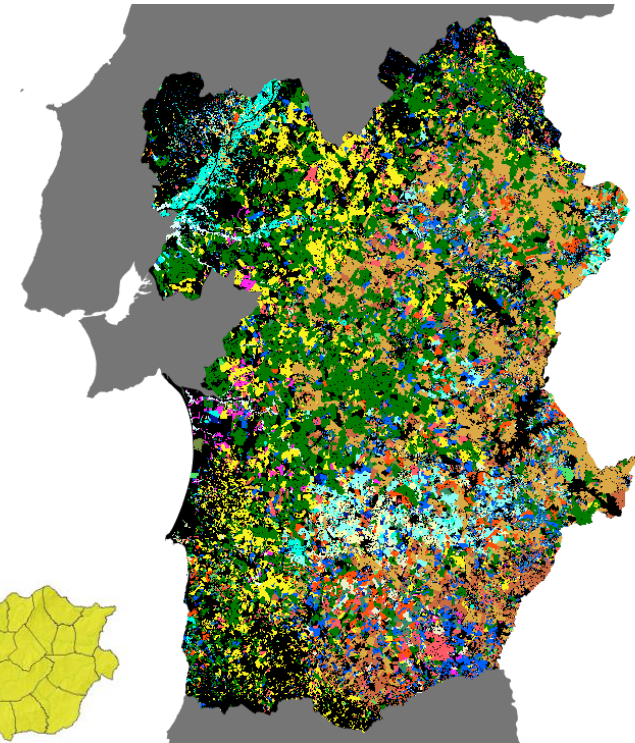


Farming system maps (examples)

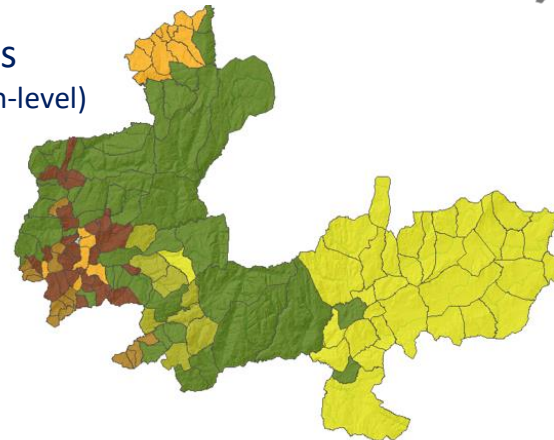
Castro Verde (farm-level)



Alentejo (NUT 2; farm-level)



Gerês (parish-level)

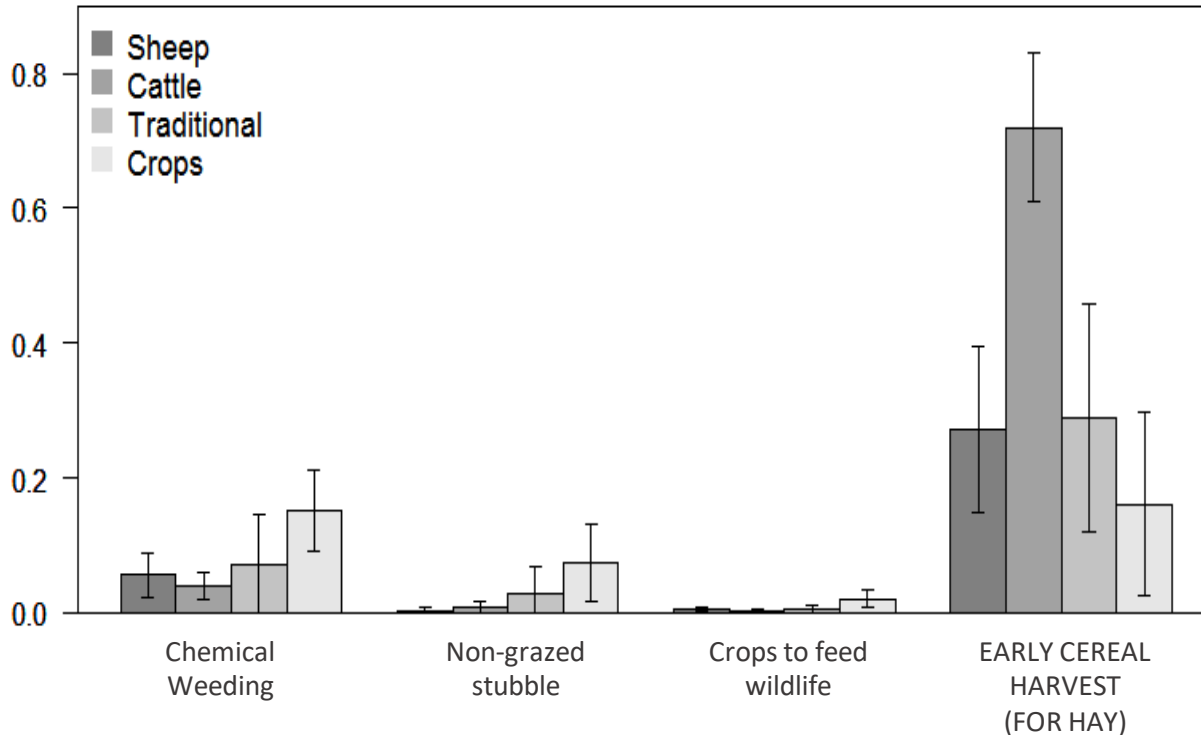


Link farming system (FS) ↔ Environmentally-relevant practices

Different SP → Different Env.-relevant practices?



Proportion of UAA affected by:



Example from the Castro Verde case-study

Link FS ↔ LANDSCAPE

Different FS → Different landscape patterns?



Residual farming



Olive groves + sheep



Cattle grazing in montado



Low-intensity annual crops in rotation with fallow



Annual irrigated crops + vineyards

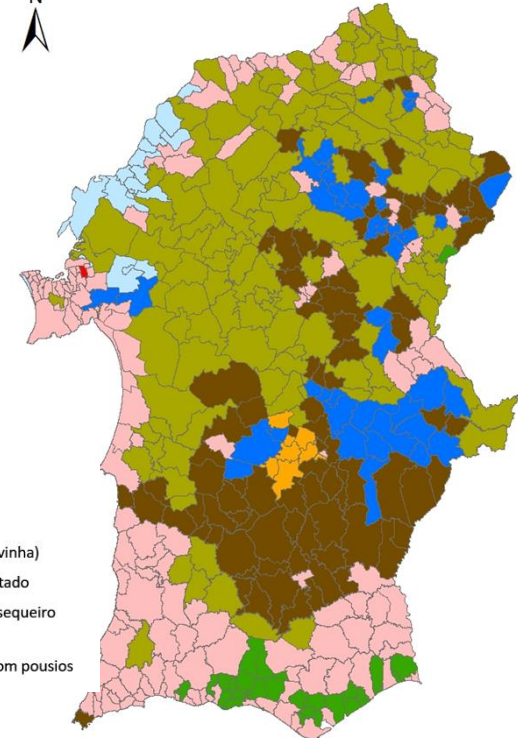


Intensive dryland annual crops



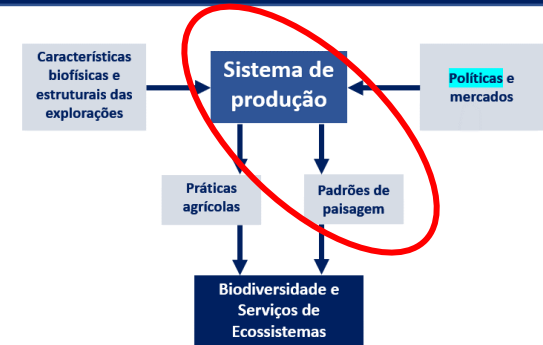
Mixed dryland fruit groves

- Agricultura residual
- Pomar misto de sequeiro
- Culturas anuais de regadio (+ vinha)
- Pastoreio de bovinos em montado
- Culturas anuais intensivas de sequeiro
- Olival (+ ovinos)
- Culturas anuais de sequeiro com pousios

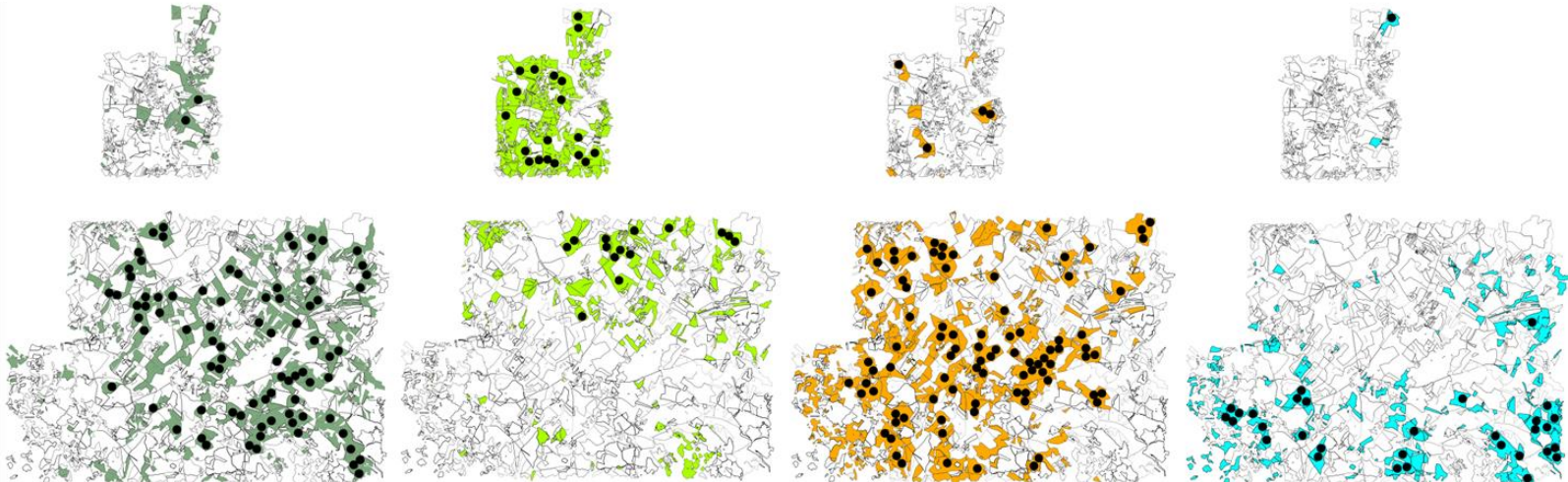


Link FS ↔ LANDSCAPE

Different FS → Different landscape patterns?



Sampling landscape circles in Farming system maps



Traditional
(n=85)

Annual crops
(n=33)

Cattle
(n=91)

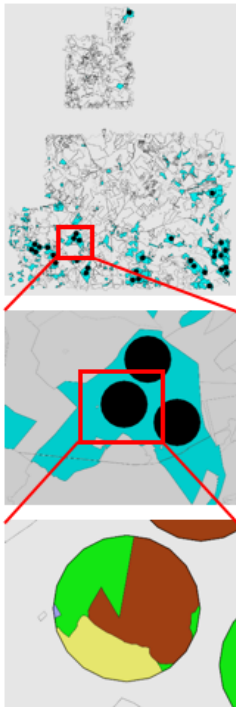
Sheep
(n=32)

Link FS ↔ LANDSCAPE

Different FS → Different landscape patterns?

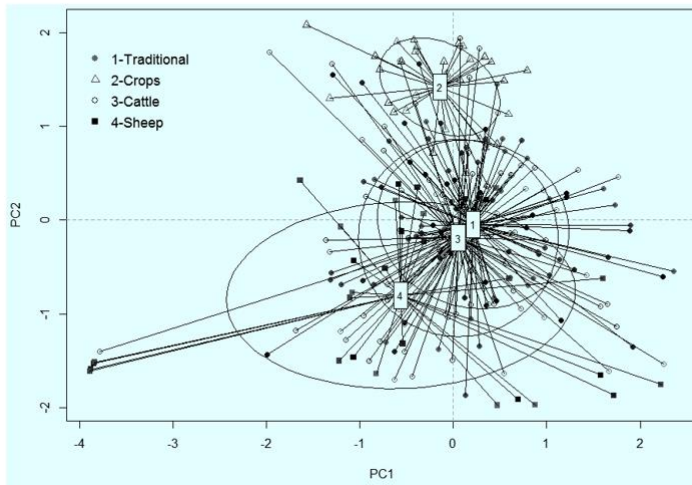


Landscape metrics



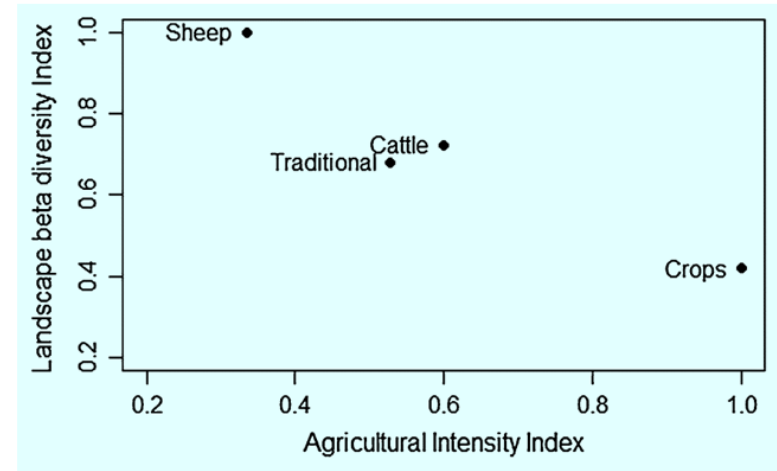
| VARIABLE | DESCRIPTION | Mean ± SD (Min-Max) |
|---|---|---------------------------|
| Landscape configuration variables: | | |
| NPATCH | Number of patches in each plot | 6.05 ± 3.36 (1 – 20) |
| TEDG | Total edges (plot boundary excluded) in each plot (meters) | 63.74 ± 35.01 (0-185.09) |
| PSCOV | Patch size coefficient of variance (patch size standard deviation divided by the mean patch size) | 111.22 ± 46.79 (0-285.92) |
| AWMSI | Area weighted mean shape index (area weighted sum of each patches perimeter divided by the square root of patch area for all patches and adjusted for the plot, divided by the number of patches) | 1.44 ± 0.27 (1 – 2.49) |
| Landscape composition variables: | | |
| NUSES | Number of different land uses/covers (LUC) in each plot | 3.90 ± 1.29 (1 – 8) |
| SDI | Shannon diversity index on LUC in each plot | 0.87 ± 0.35 (0 – 1.73) |
| CEREAL | proportion of cereal crops in each plot | 0.27 ± 0.23 (0 - 0.99) |
| FALLOW | proportion of fallows in each plot | 0.16 ± 0.19 (0 - 0.91) |
| BSOIL | proportion of bare soil in each plot | 0.01 ± 0.06 (0 - 0.75) |
| PASTURE | proportion of permanent pastures in each plot | 0.38 ± 0.31 (0 - 1.00) |
| SHRUB | proportion of shrublands in each plot | 0.02 ± 0.06 (0 - 0.40) |
| LEGUM | proportion of leguminous crops in each plot | 0.01 ± 0.05 (0 - 0.37) |
| FORAGE | proportion of forage crops and temporary pastures in each plot | 0.01 ± 0.04 (0 - 0.34) |
| FOREST | proportion of forest in each plot | 0.05 ± 0.14 (0 - 0.89) |
| PERMCROP | proportion of permanent crops (olive groves) in each plot | 0.01 ± 0.04 (0 - 0.42) |
| OTHACROP | proportion of other annual crops in each plot | 0.06 ± 0.15 (0 - 0.90) |
| SOCIAL | proportion of social areas (roads, buildings) in each plot | 0.00 ± 0.01 (0 - 0.13) |
| WETLAND | proportion of wetland areas (rivers, dams, reservoirs) in each plot | 0.01 ± 0.03 (0 - 0.34) |

Scatterplot of the 241 observations on the 2 first PCs



Landscape Ecol (2016) 31:791–803
DOI 10.1007/s10980-015-0287-0

Relationship between “*landscape flexibility*” and the intensity level of the Farming system



RESEARCH ARTICLE

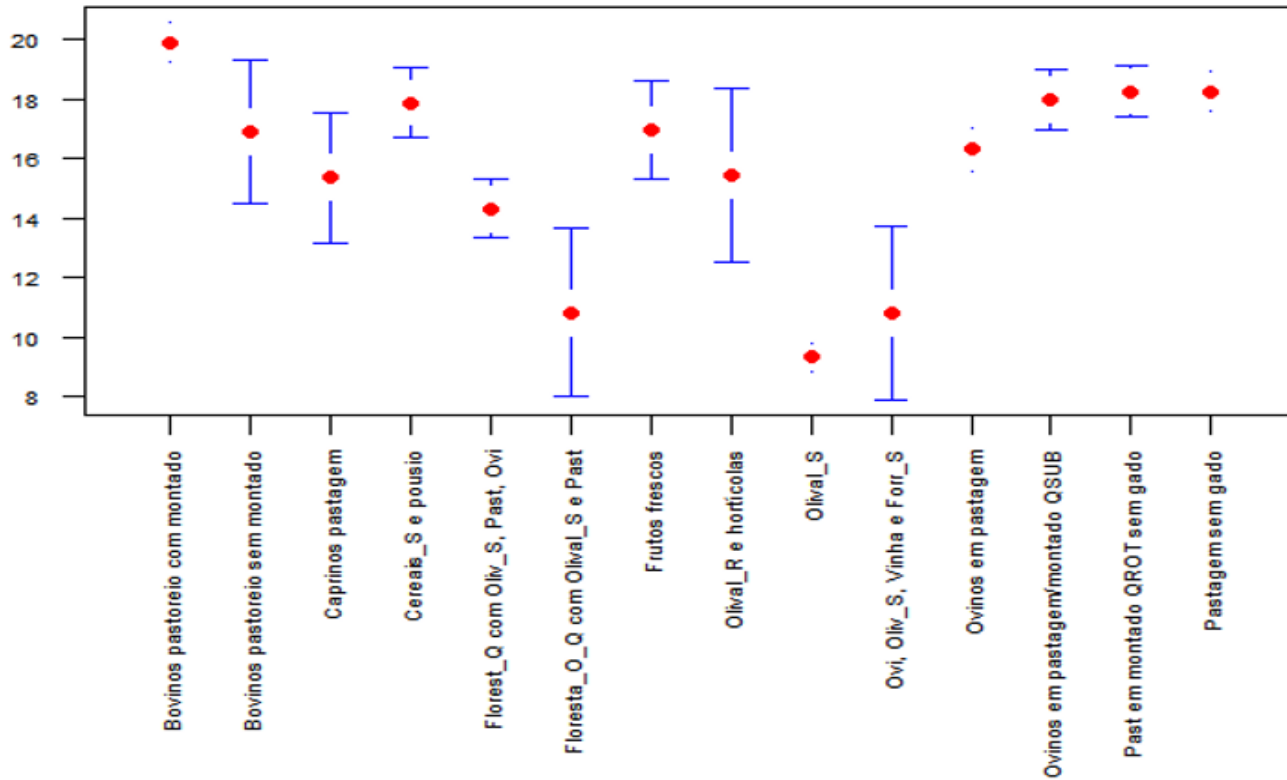
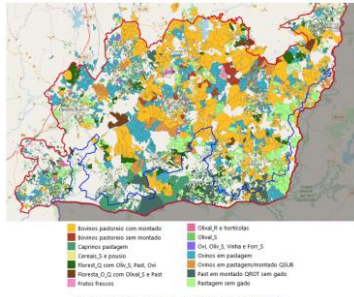
Landscape makers and landscape takers: links between farming systems and landscape patterns along an intensification gradient

Paulo F. Ribeiro · José L. Santos · Joana Santana · Luís Reino ·
Pedro J. Leitão · Pedro Beja · Francisco Moreira

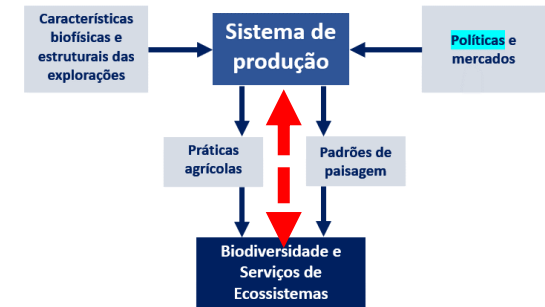
Received: 22 February 2015 / Accepted: 28 September 2015 / Published online: 13 October 2015
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Link FS ↔ Biodiversity and Ecosystem Services

Example 2:

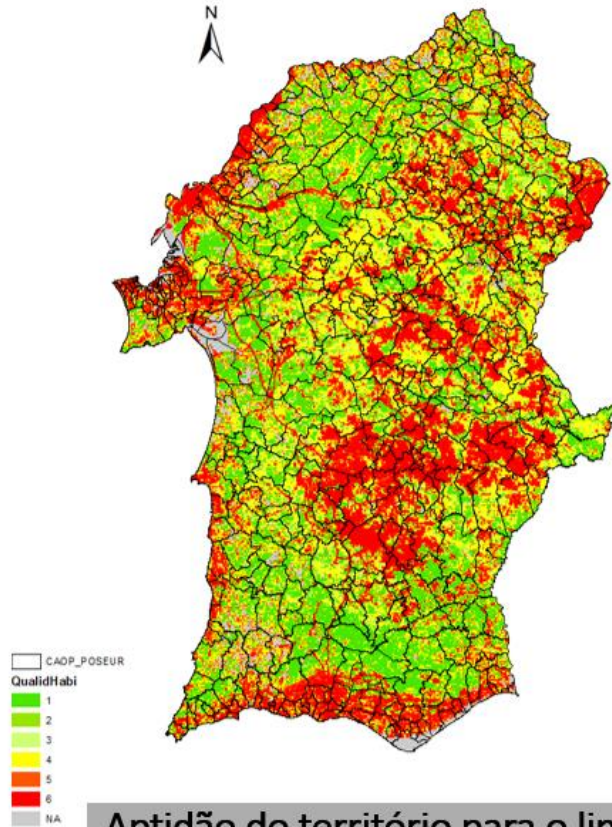
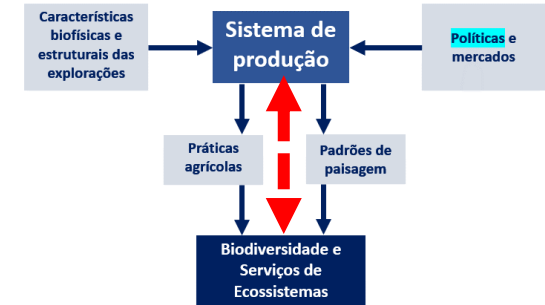


Número médio de espécies prioritárias (POPNTI) por Sistema de Produção

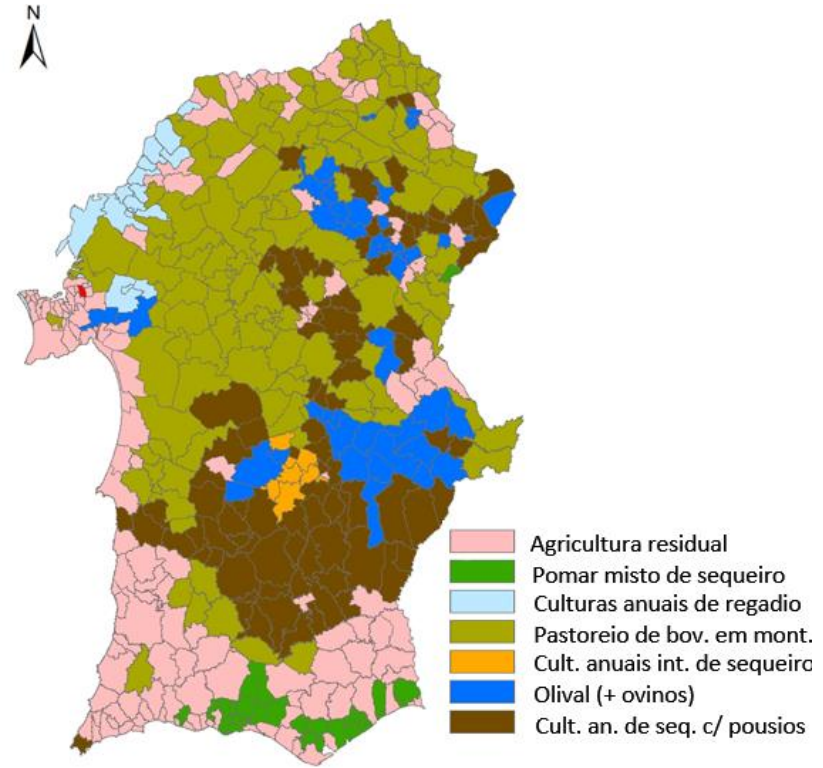


Link FS ↔ Biodiversity and Ecosystem Services

Example 3.1:



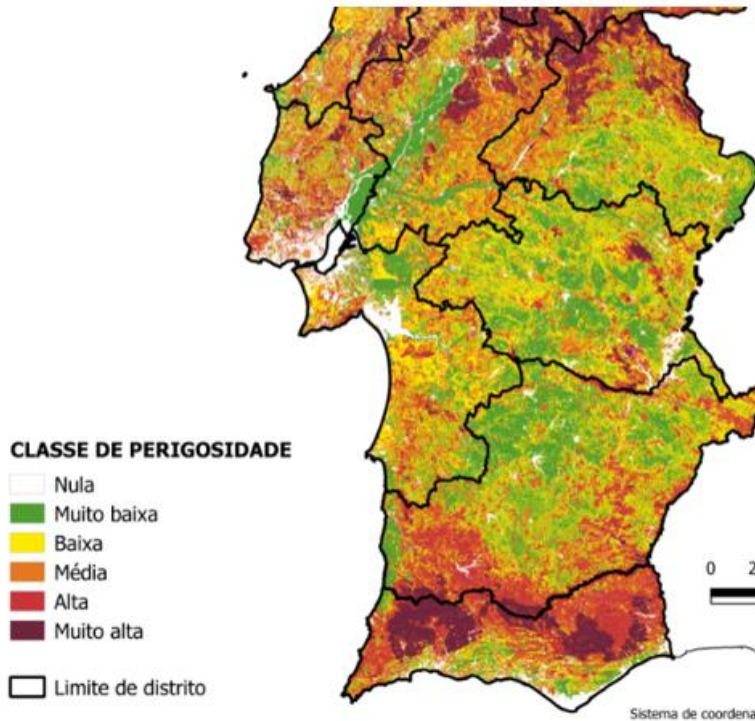
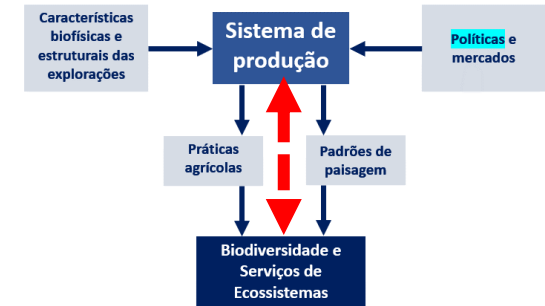
Aptidão do território para o lince



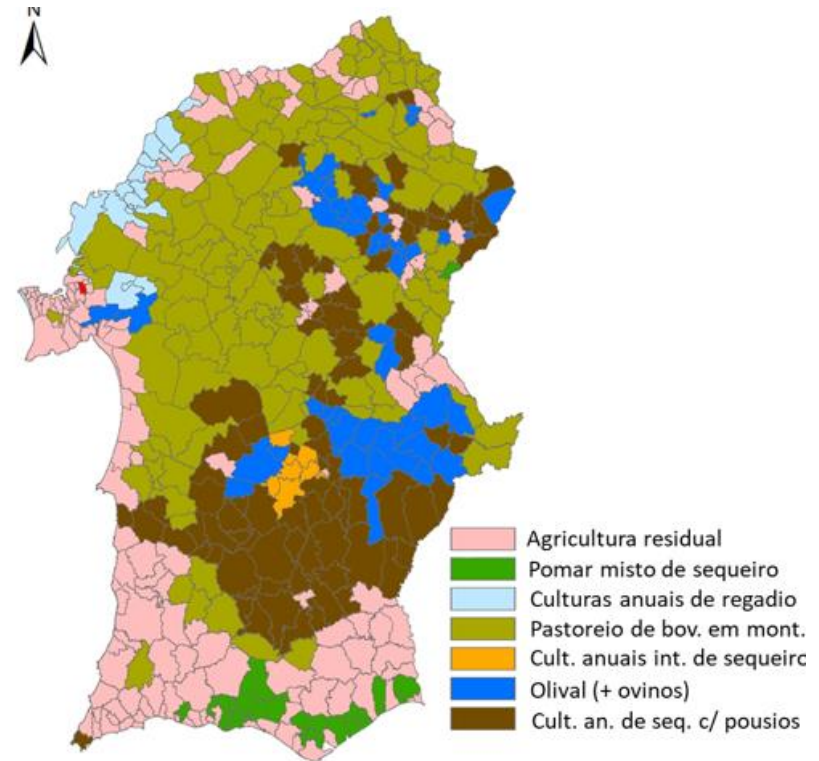
Distribuição dos SP em 2009

Link FS ↔ Biodiversity and Ecosystem Services

Example 3.2:



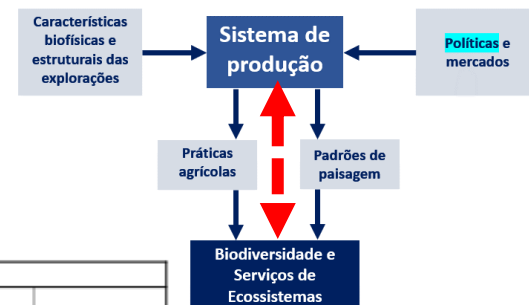
Perigosidade de incêndio



Distribuição dos SP em 2009

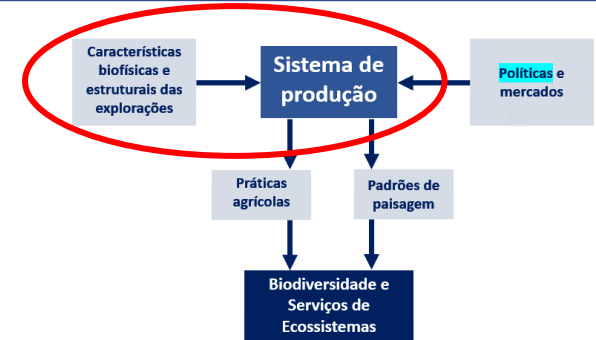
Link FS ↔ Biodiversity and Ecosystem Services

Example 3.3:

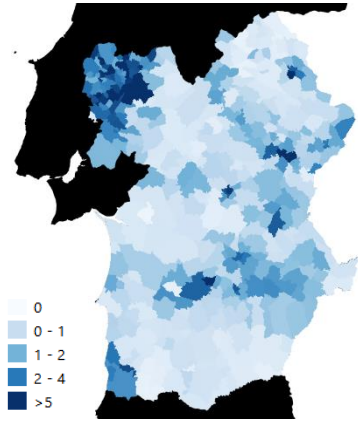


| | | Sistemas de Produção | | | | | | |
|-------------------------------------|--|----------------------|--------|---------------------------------|--|---|----------------------------|-------------------------|
| | | Agricultura residual | Olival | Pastoreio de bovinos em montado | Culturas anuais intensivas de sequeiro | Culturas anuais de sequeiro com pousios | Culturas anuais de regadio | Pomar misto de sequeiro |
| Estado do Ecossistema | Matéria Orgânica no Solo (tC/ha) | 72,11 | 67,19 | 70,93 | 62,46 | 64,13 | 67,31 | |
| | Valor Ecológico das Comunidades Vegetais | 2,12 | 1,99 | 2,45 | 1,45 | 2,16 | 1,38 | |
| | Fitodiversidade | 1,94 | 1,80 | 2,34 | 1,32 | 1,92 | 1,38 | |
| | Zoodiversidade | 4,35 | 3,62 | 4,23 | 2,25 | 3,17 | 5,05 | |
| Serviços de Aprovisionamento | Produção de Fibra (m3/ha/ano) | 1,36 | 0,26 | 1,03 | 0,08 | 0,33 | 1,04 | |
| | Produção alimento vegetal (t/ha) | 0,66 | 1,28 | 0,51 | 2,73 | 1,02 | 4,39 | |
| | Suporte ao Efetivo Animal (CN/ha) | 0,09 | 0,11 | 0,15 | 0,07 | 0,16 | 0,02 | |
| Serviços de Regulação | Erosão Evitada (t/ha/ano) | 44,58 | 30,19 | 35,16 | 11,09 | 27,35 | 11,14 | |
| | Sequestro de Carbono na Biomassa (tC/ha/ano) | -0,24 | -0,18 | -0,25 | -0,13 | -0,23 | -0,21 | |
| | Sequestro de Carbono no Solo (tC/ha/ano) | 0,17 | -0,07 | 0,07 | 0,06 | -0,01 | 0,13 | |
| | Sequestro de Carbono (tC/ha/ano) | -0,08 | -0,28 | -0,20 | -0,07 | -0,26 | -0,08 | |
| | Perigosidade de incêndio | 2,37 | 1,77 | 2,36 | 1,29 | 1,95 | 1,62 | 1,93 |

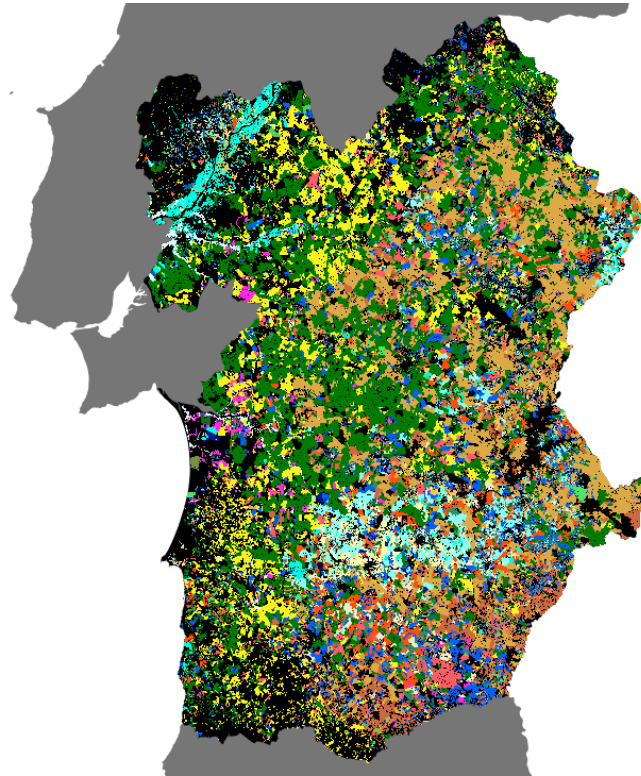
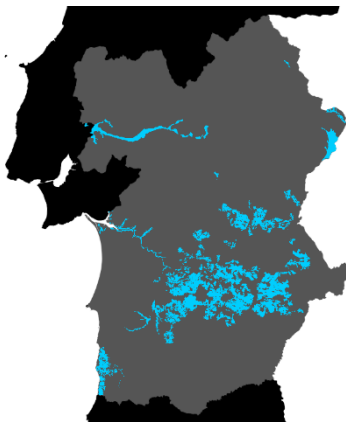
Link FS ↔ Biophysical and socio-economic drivers of FS choice (examples)



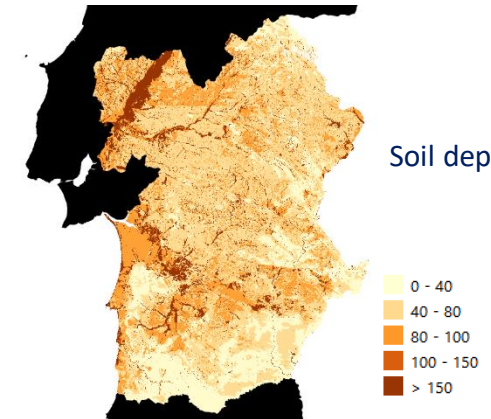
Labour availability (UTA/km²)



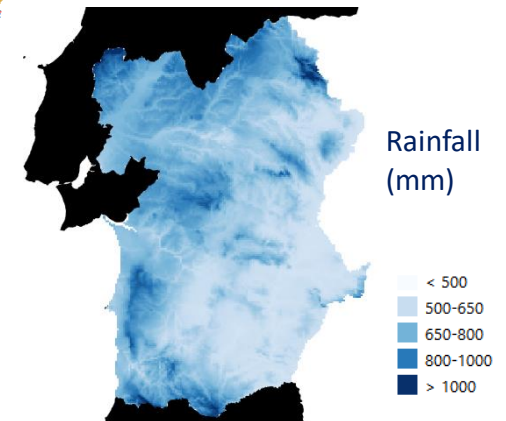
UAA included in public irrigation systems



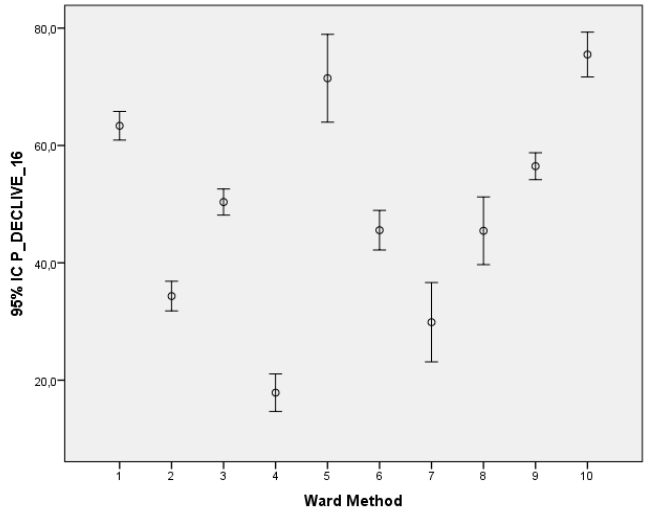
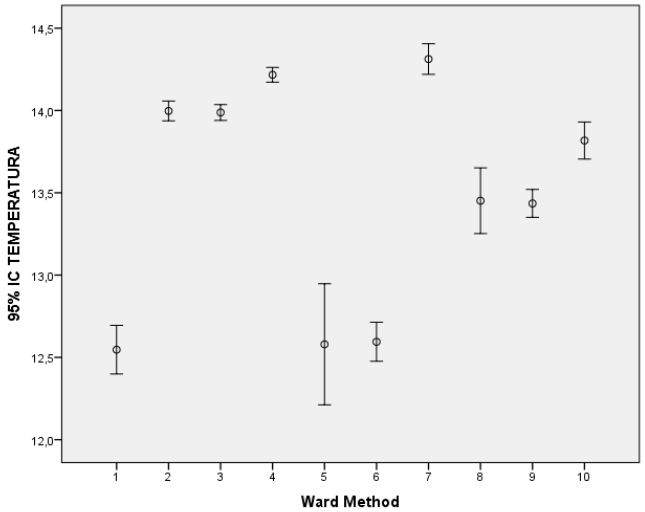
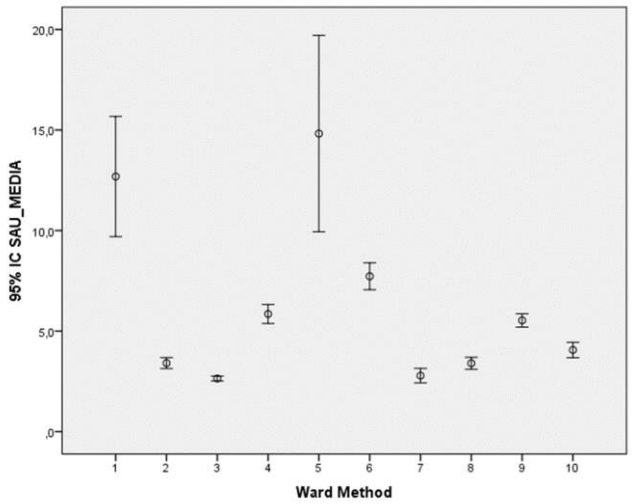
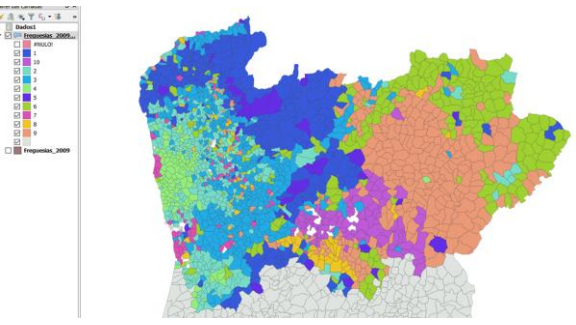
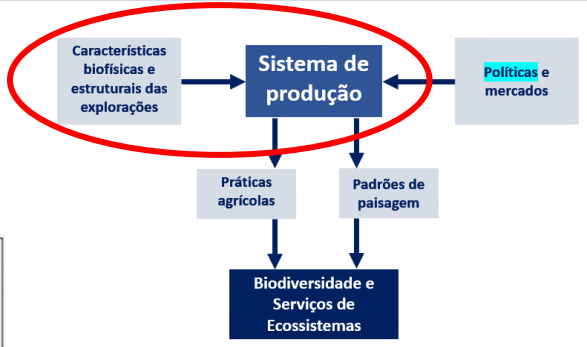
Soil depth (cm)



Rainfall (mm)



Link FS ↔ Biophysical and socio-economic drivers of FS choice (examples)





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Modelling farming system dynamics in High Nature Value Farmland under policy change



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Luís Reino^c, Pedro Beja^{c,*}, Francisco Moreira^b

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^b CEABN – Centro de Ecologia Aplicada “Professor Baeta Neves”/InBIO, Universidade de Lisboa, Tapada da Ajuda, 1349-017 Lisboa, Portugal

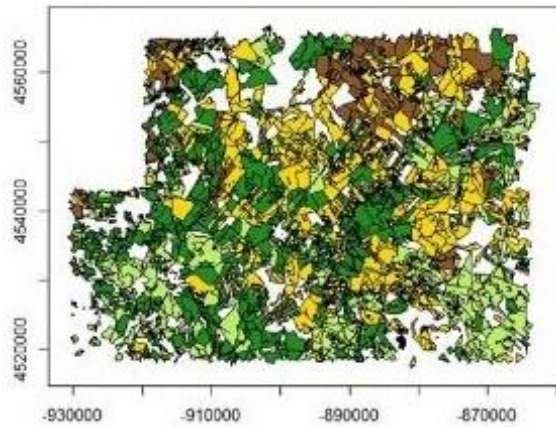
^c EDP Biodiversity Chair, CIBIO – Centro de Investigação em Biodiversidade e Recursos Genéticos/InBIO, Universidade do Porto, Campus Agrário de Vairão, Rua Padre Armando Quintas, 4485-661 Vairão, Portugal

FS dynamics:

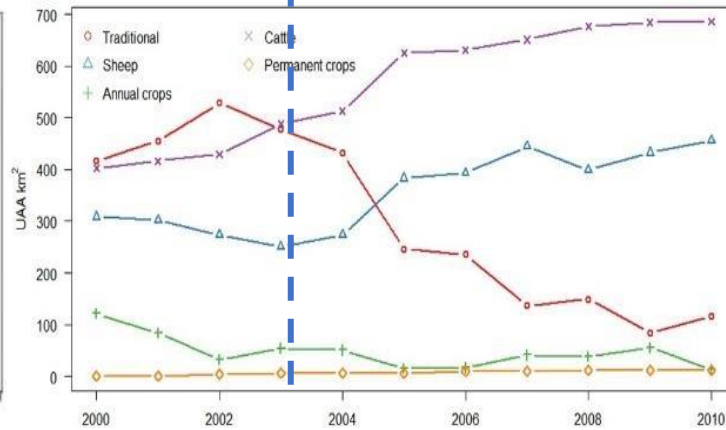
Example 1:

Castro Verde case-study (2000 – 2010)

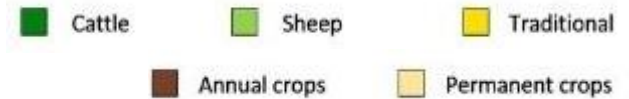
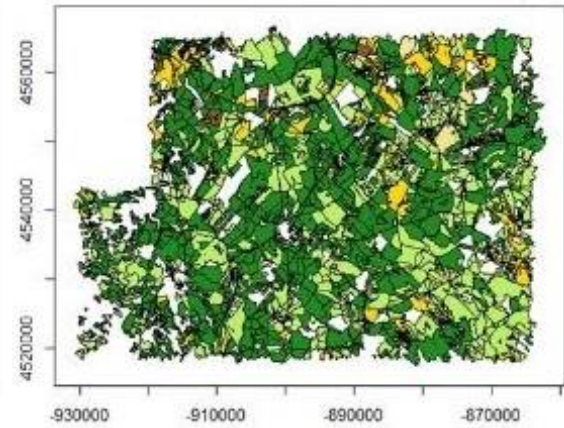
2000



CAP 2003 Reform



2010



FS transitions:

Example 2.1:

Alentejo and Algarve case-study

Transition Matrix of FS 1999-2009 (RGA)

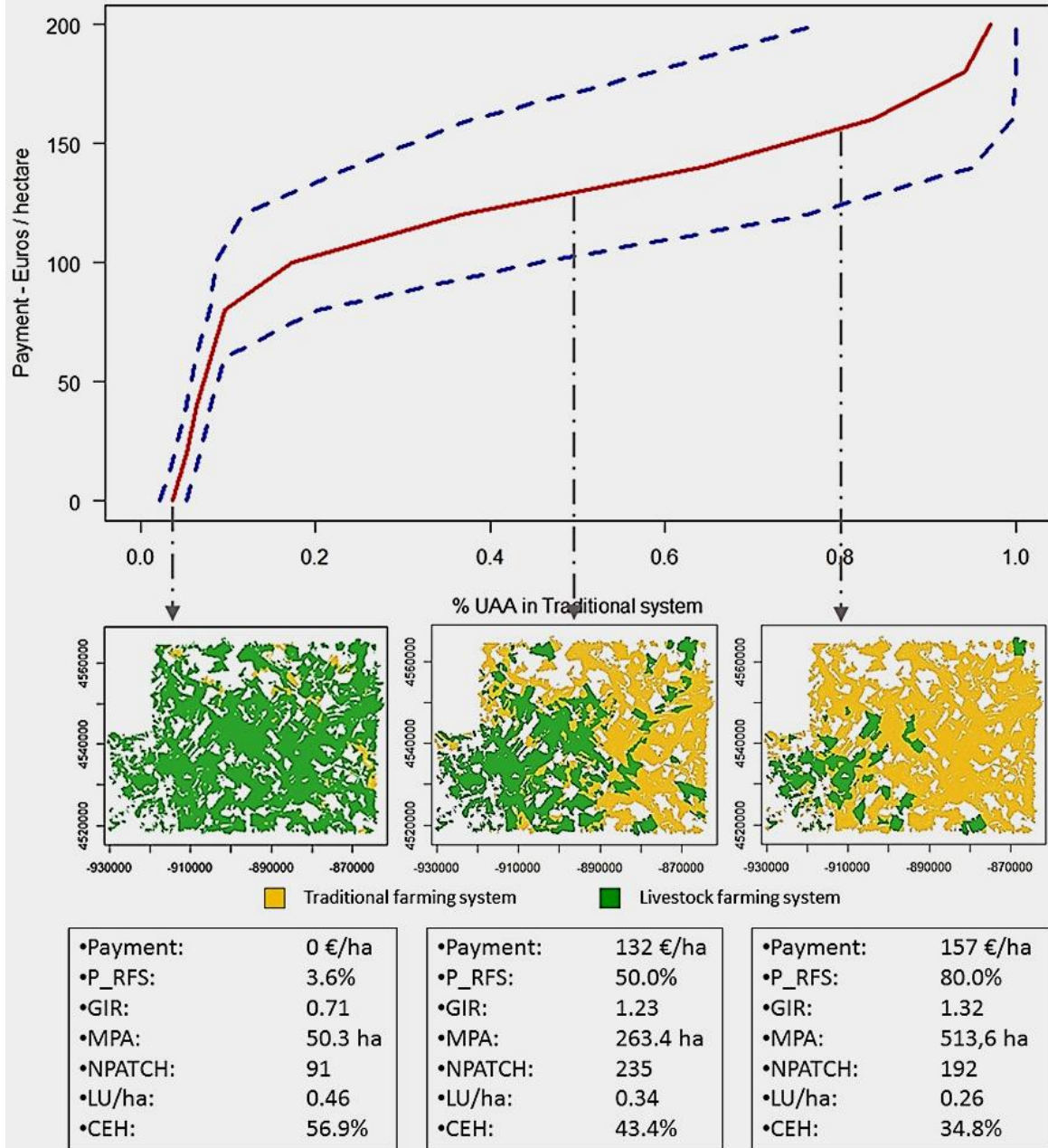
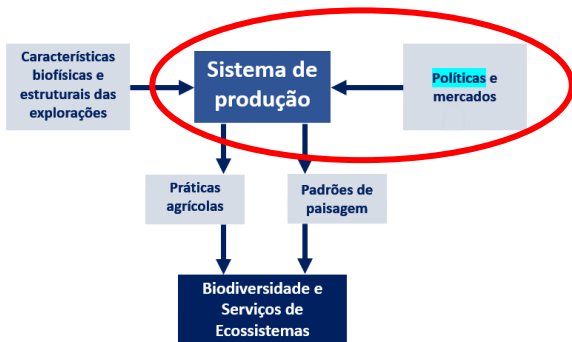
| | | 2009 | | | | | | |
|------|---|----------------------|-------------------------|----------------------------|---------------------------------|--|--------|---|
| | | Agricultura residual | Pomar misto de sequeiro | Culturas anuais de regadio | Pastoreio de bovinos em montado | Culturas anuais intensivas de sequeiro | Olival | Culturas anuais de sequeiro com pousios |
| 1999 | Agricultura residual | 13% | 0% | 1% | 4% | 0% | 0% | 0% |
| | Pomar misto de sequeiro | 3% | 3% | 0% | 0% | 0% | 0% | 0% |
| | Culturas anuais de regadio | 0% | 0% | 2% | 0% | 0% | 1% | 1% |
| | Pastoreio de bovinos em montado | 2% | 0% | 0% | 18% | 0% | 0% | 2% |
| | Culturas anuais intensivas de sequeiro | 0% | 0% | 0% | 0% | 1% | 1% | 2% |
| | Olival | 0% | 0% | 0% | 0% | 0% | 6% | 1% |
| | Culturas anuais de sequeiro com pousios | 4% | 0% | 0% | 17% | 0% | 1% | 16% |

Note: FS transitions are in percentage of overall land area in the study area

Modelling FS choice ...

... to simulate the effects of different policy payment levels on the uptake of the target FS

Supply curve of conservation services through adoption by farmers of target FS (Castro Verde case-study)





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Analysis

A Spatially Explicit Choice Model to Assess the Impact of Conservation Policy on High Nature Value Farming Systems

Paulo Flores Ribeiro^{a,*}, Luís Catela Nunes^b, Pedro Beja^{c,d}, Luís Reino^{c,d}, Joana Santana^{c,d},
Francisco Moreira^{c,d}, José Lima Santos^a

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^b Nova School of Business and Economics, Universidade Nova de Lisboa, Campus de Campolide, 1099-032 Lisboa, Portugal

^c CIBIO/InBio, Centro de Investigação em Biodiversidade e Recursos Genéticos, Universidade do Porto, Campus Agrário de Vairão, Vairão, Portugal

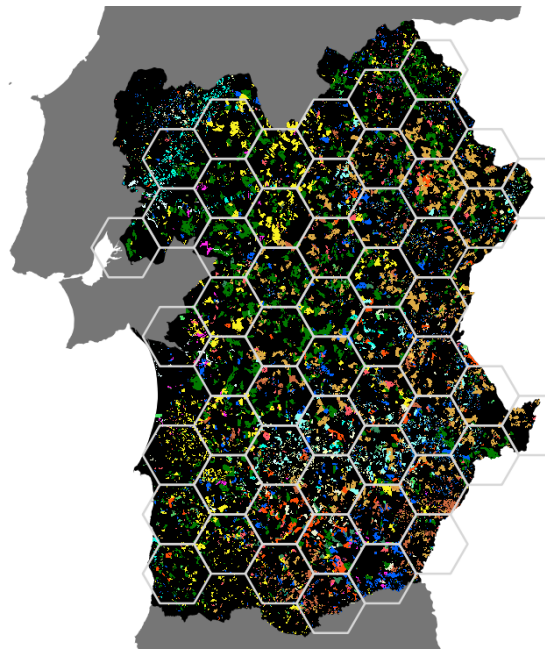
^d CEABN/InBio, Centro de Ecologia Aplicada “Professor Baeta Neves”, Instituto Superior de Agronomia, Universidade de Lisboa, Tapada da Ajuda, 1349-017 Lisboa, Portugal



Modelling FS choice...

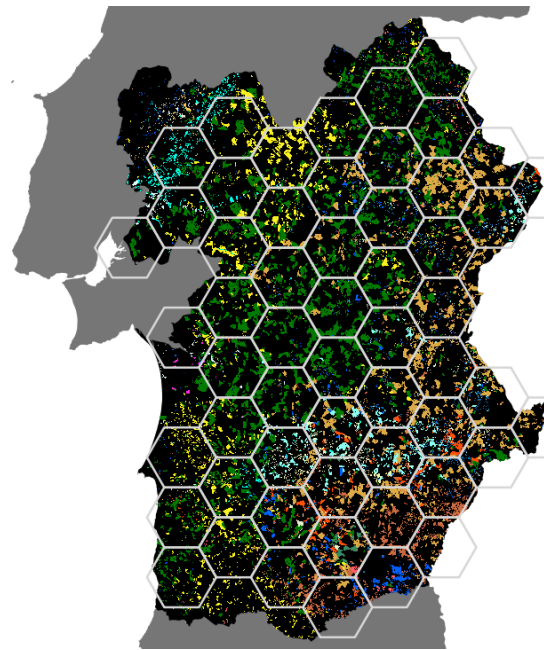
using only cross-section (not time series) data

... to predict FS patterns (agricultural landscapes)
 based on biophysical and socioeconomic drivers



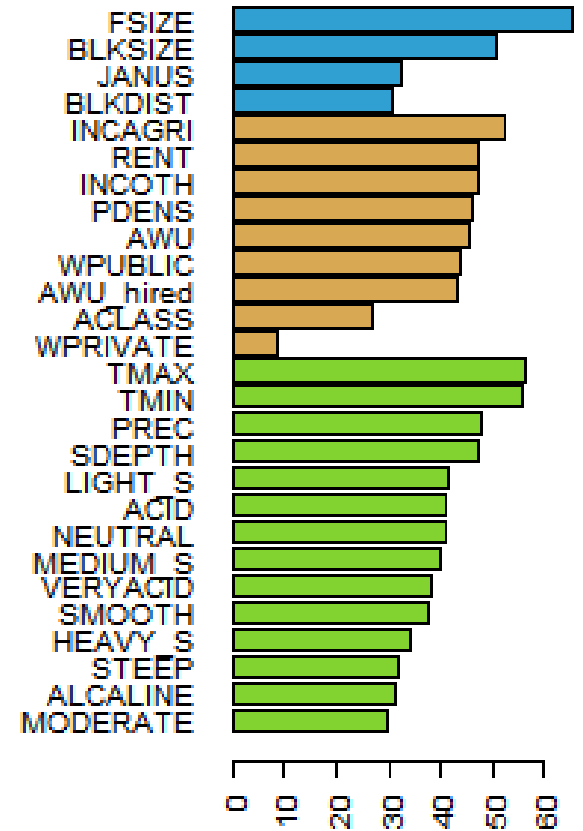
**Observed
 pattern**

> 70% match
 (in pattern
 composition)



**Predicted
 pattern**

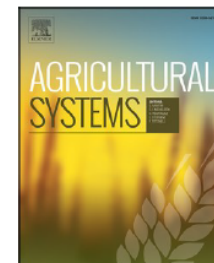
Variable importance



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Explaining farming systems spatial patterns: A farm-level choice model based on socioeconomic and biophysical drivers

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Maria João Prudêncio Rafael Canadas^a, Ana Maria Contente de Vinha Novais^a,
Francisco Manuel Ribeiro Ferraria Moreira^{b,d}, Ângela Cristina de Araújo Rodrigues Lomba^c

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Pros and cons of paying for farming systems to get biodiversity and ecosystem service results

Pros:

- Easy implementation within the existing administrative frame
- Transaction costs are much lower than those of the existing agri-environmental schemes (no contract neither additional controls than those already done for direct payments)
- The required information (“IFAP data”) is already collected and is available over the EU
- Payment levels estimated based on real choices made by farmers in the recent past as a reply to policy changes
- Almost automatic operation – farms are automatically classified by FS in each year, based on information that is already required when applying for direct payments; they are then selected for payment if included in a target FS

Cons:

- Requires the previous development of a FS study at the regional/local scale and the regular update of this study, namely the FS typology (e.g. in each review of the EU financial frame)
- Data limitations (lack of information on detailed farmer’s attributes, limited ability to get detailed differences in farming practices – e.g. harvest date –may require specific survey)
- Possible difficulty of farmers to perceive these payments as having an environmental counterpart rather than another parcel to the check of support received annually (paying for results may be included as a complement to solve this problem)