

FSD7-2022 Workshop

30 October to 3 November 2022, Marrakech
(Morocco)

Results-based payments: a new tool requiring support decision tool to help adaptive management in complex silvopastoral systems

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our silvo-pastoral landscape



A landscape resulting from a highly adaptive system

wood pastures for high quality livestock + open forest
<100 trees/ha

cork production, extensive use, several layers,
spatial and functional complexity, high spatial fuzzyness



hot-spot of biodiversity + leisure + heritage

diversity of products & income sources

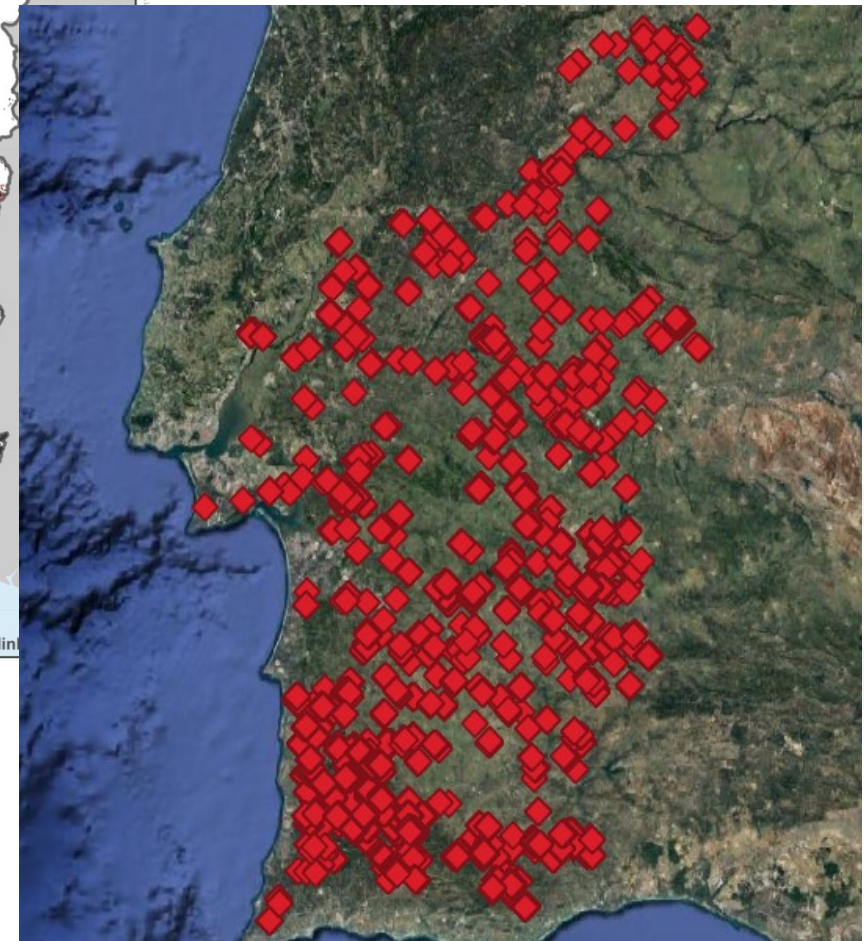
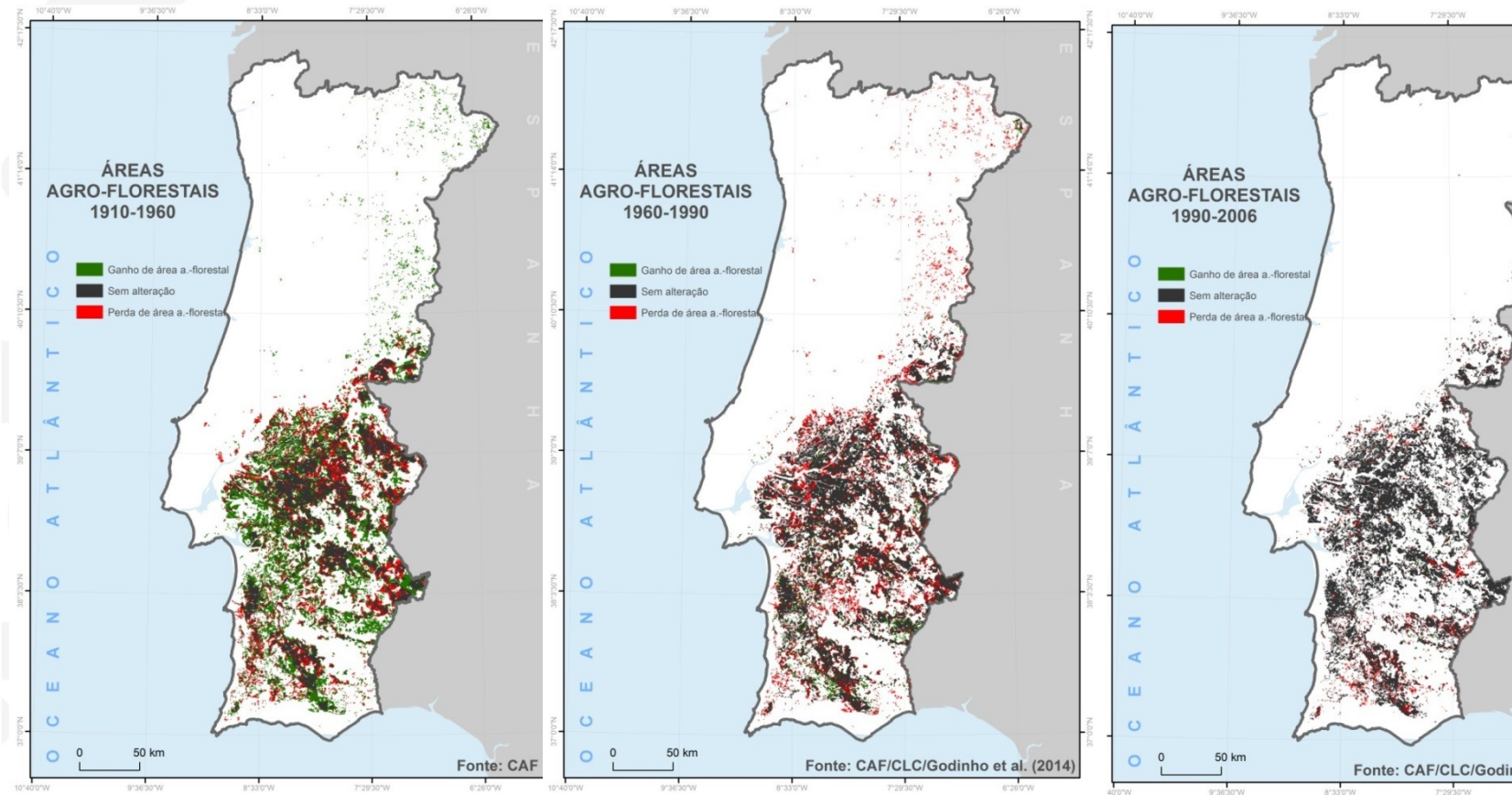
High Nature Value x Ecosystem Services provisioning

»»» hunting, hiking, recreation, bird watching, identity, culture

»»» growing societal demand

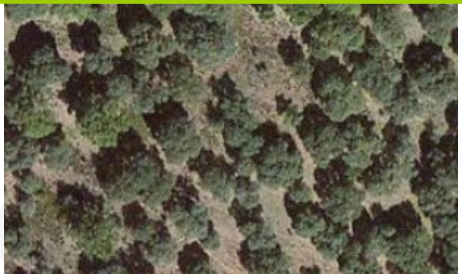


As other silvo-pastoral systems, *Montados* are over-mature and suffer recruitment failure showing a significant shrinking and decline:



**Between 1990 e 2014 and continuing....
»» 5000 ha/year have been lost**

a step by step opening and reduction in area



D >50% Dense Montado



C 20 – 50% Open Montado



B 10 – 20% Clear Montado



A < 10% Open Pastures



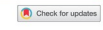
Agroforest Syst (2016) 90:23–34
DOI 10.1007/s10457-014-9769-3



A remote sensing-based approach to estimating montado canopy density using the FCD model: a contribution to identifying HNV farmlands in southern Portugal

Sérgio Godinho · Artur Gil · Nuno Guiomar · Nuno Neves · Teresa Pinto-Correia

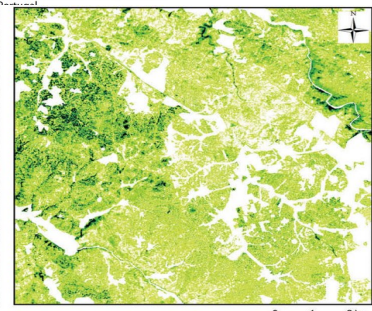
INTERNATIONAL JOURNAL OF REMOTE SENSING, 2017
https://doi.org/10.1080/01431161.2017.1399480



Estimating tree canopy cover percentage in a mediterranean silvopastoral systems using Sentinel-2A imagery and the stochastic gradient boosting algorithm

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RGB
Red: Band_3
Green: Band_2
Blue: Band_1

SGB predicted montado CCP
5% 40% 85%

decrease in resilience
↓
coming closer to threshold of no return

What can be done? ...looking for opportunities

2018 » EC announces more flexible and performance based CAP
»» emphasis shift from compliance and rules
towards results and performance.



Strategic plans » countries define how they want to meet the 9 CAP objectives using CAP instruments while responding to the specific needs of their farmers and rural communities.

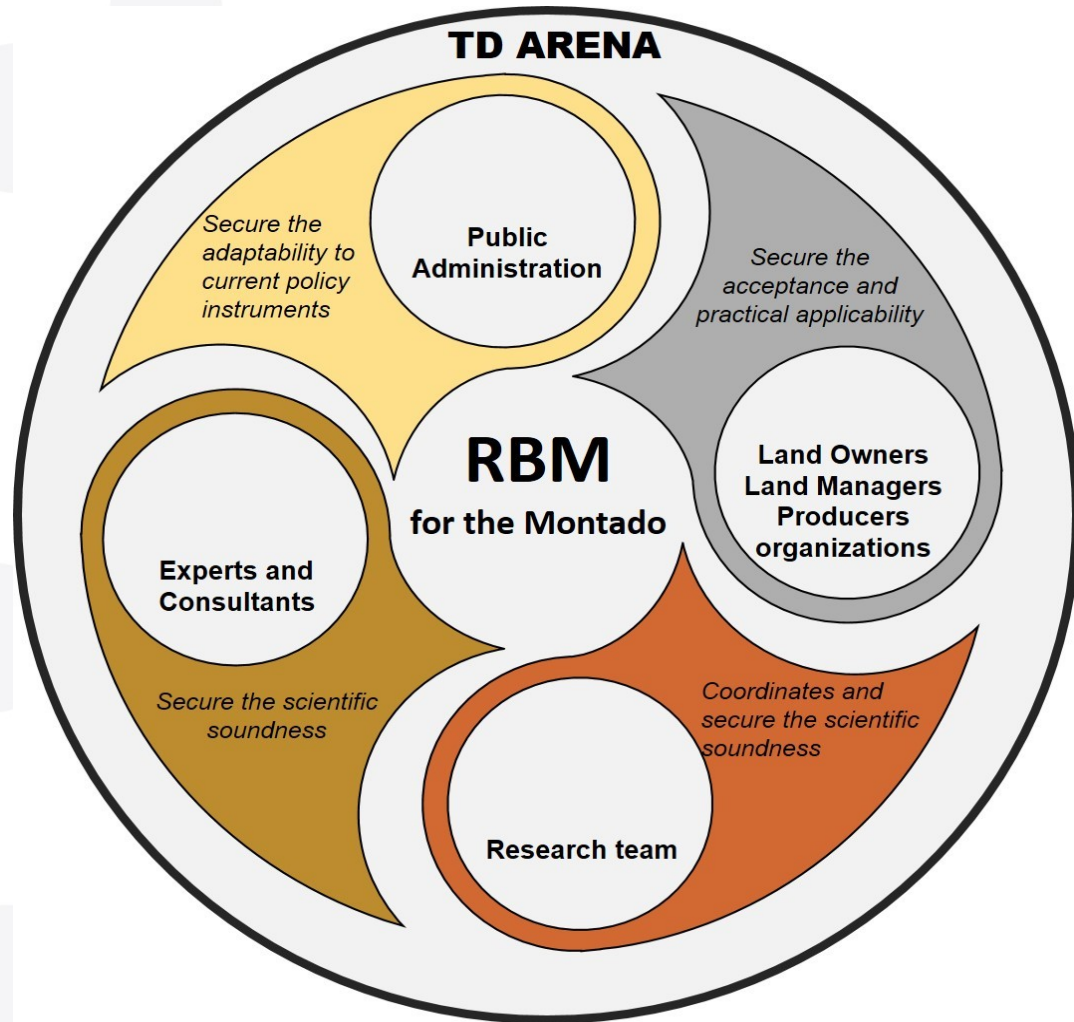
CHAPTER IV - TYPES OF INTERVENTIONS FOR RURAL DEVELOPMENT SECTION 1, Articles 64 & 65
*7. Member States may promote and support **collective schemes** and **result-based payments** schemes to **encourage farmers to deliver a significant enhancement of the quality of the environment at a larger scale and in a measurable way.***

»» **place to innovate and experiment**

»» **calls for NEW ways to incentivise farmers to deliver environmental benefits**

Result Based Measures (RBM)
within the agri-environmental scheme, defined for specific and targeted farm systems
rewarding farmers for going beyond mandatory requirements

1) a transdisciplinary (TD) arena



- Based on previous **networks & projects**
- A **platform for dialogue** among stakeholders » different actors & different skills
- Maintained and **enriched throughout de co-construction** process
- Based on **tangible relations** and shared goals & **intangible links**, values and inspirations.



2. selection of the environmental outcomes

»» room to link to the functioning of the system

The environmental outcome has to be clear and measurable:



Be dependent on the **farm practices**

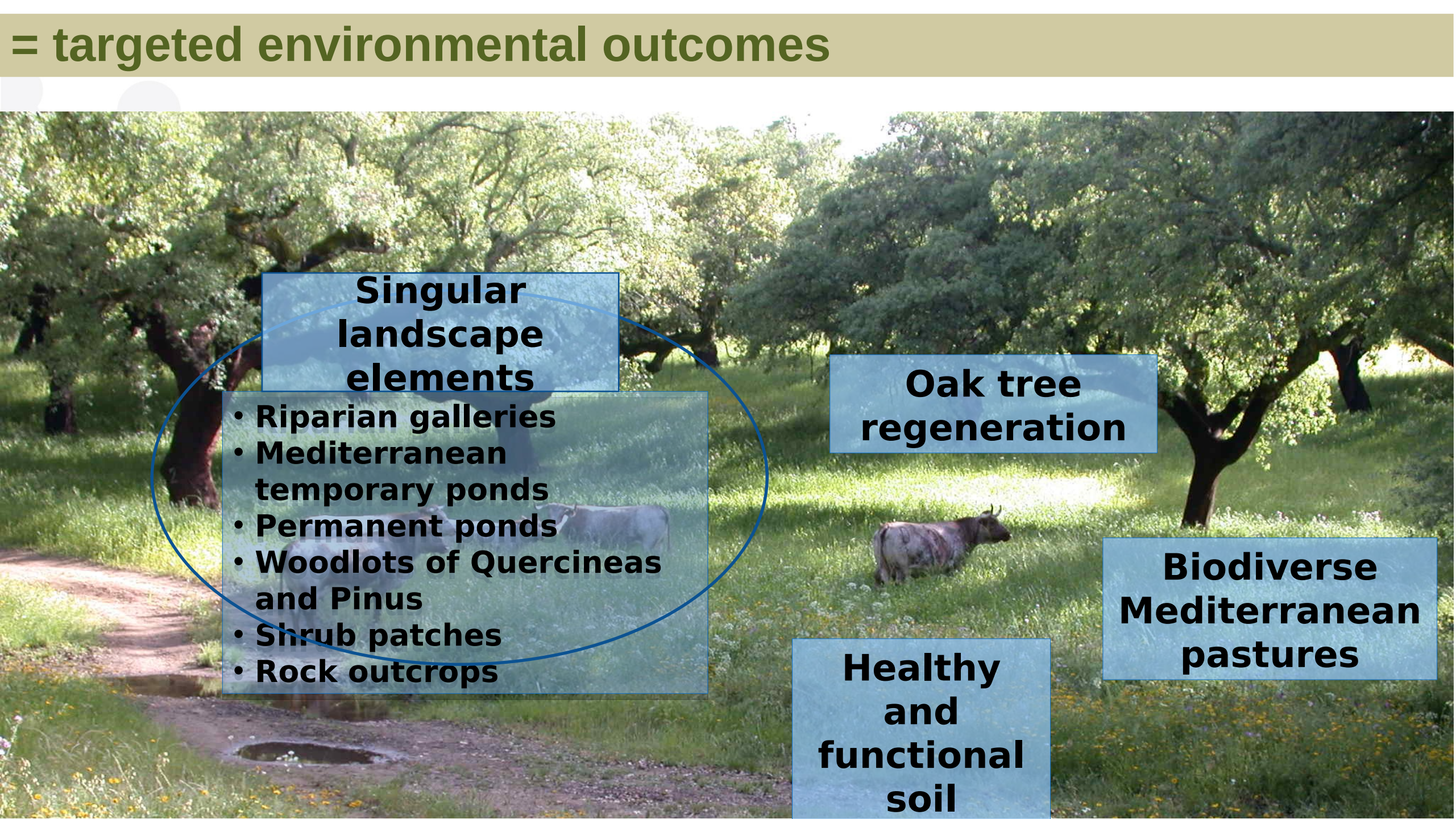


Be an objective of a **known conservation** state
(conservation priority at National ou Regional level)



Be object of **scientific knowledge** that allow the
selection of indicators for its evaluation.

= targeted environmental outcomes



**Singular
landscape
elements**

- Riparian galleries
- Mediterranean temporary ponds
- Permanent ponds
- Woodlots of Quercineas and Pinus
- Shrub patches
- Rock outcrops

**Oak tree
regeneration**

**Biodiverse
Mediterranean
pastures**

**Healthy
and
functional
soil**

3. selection of the indicators to measure these outcomes

Clear and measurable indicators have to be selected

Scientifically grounded and reflecting the environmental result

»»the contribution from the scientific community

»» in interaction with those that are going to use the indicators: farmers and technicians

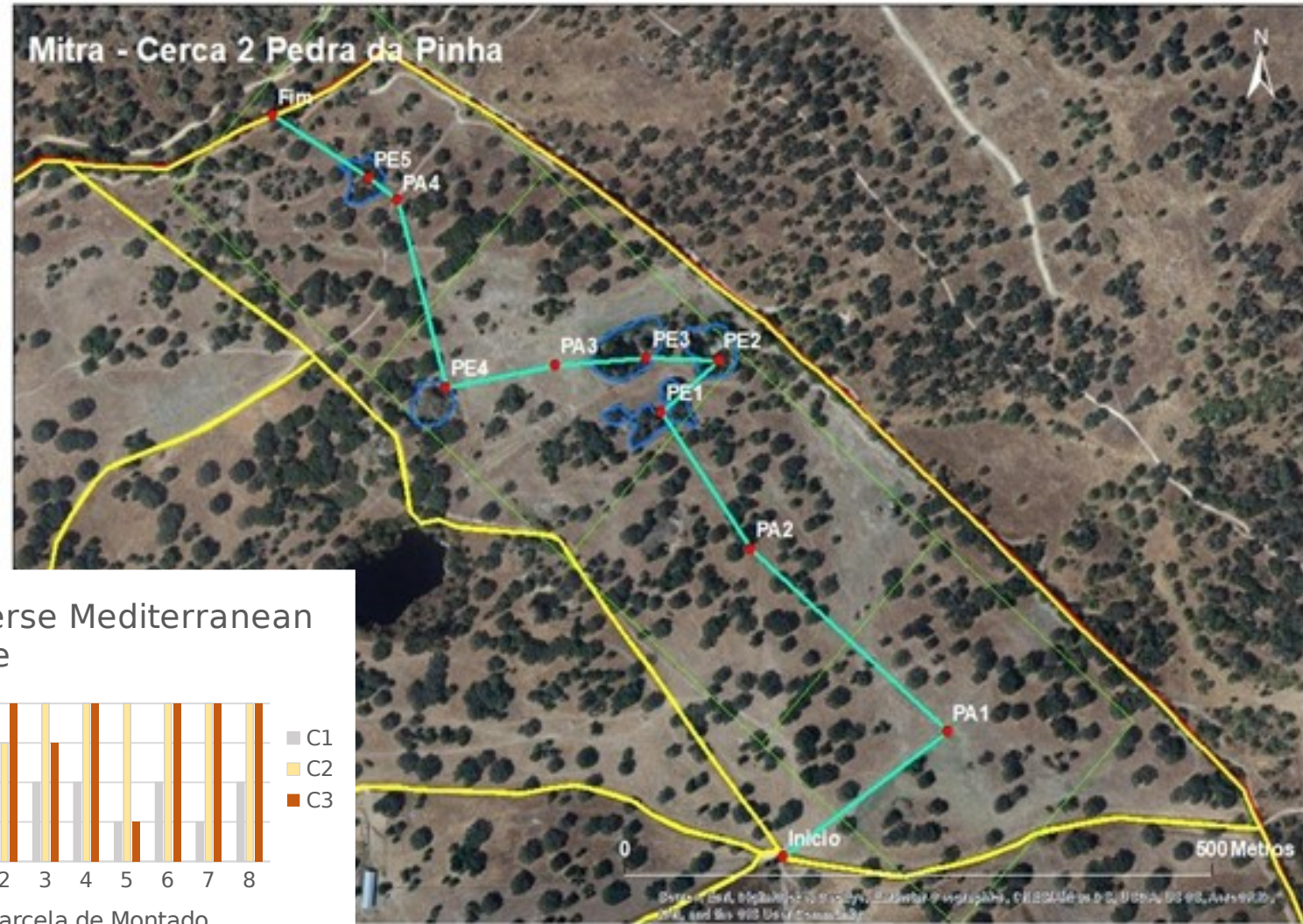
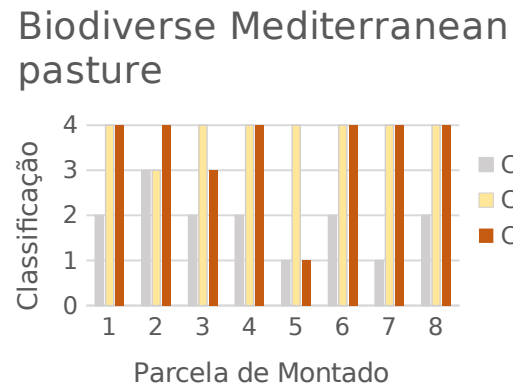
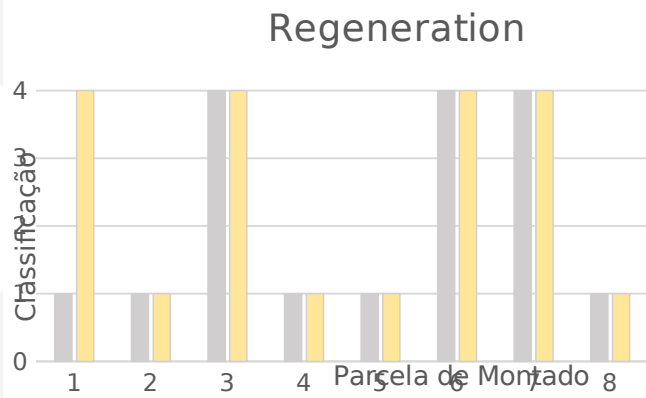


3. selection of the indicators to measure these outcomes

| Indicator | Environmental outcome |
|-----------------------------------------------------------------------------------------|-----------------------------------|
| A1 - Degree of soil cover by <i>Rumex bucephalophorus</i> and <i>Chamaemelum mixtum</i> | Healthy and functional soil |
| A2 - Extension of bare soil | |
| B1 - Density of tree cover regeneration | Oak tree regeneration |
| B2 - Conservation status of regeneration | |
| C1- Balance among botanical herbaceous groups | Biodiverse Mediterranean pastures |
| C2- Degree of thistles cover | |
| C3-Degree of shrubs cover | |
| D1 - Diversity of singular landscape elements | Singular landscape elements |
| D2 - Representativeness of singular landscape elements | |
| D3 - Conservation status of each singular landscape element | |

4. the indicator assessment protocol »» and implementation

- Plot selection
- Definition of the assessment path:
- Assessment method for each indicator
 - Evaluation Guide





From place based co-construction to policy design

Researchers as organizers and linkage to policy makers

» place attachment, network involvement, motivation



» using a window of opportunity

» integrating project funds for long distance goal

» being RESILIENT » attention and dialogue in all steps

**Strategic Plan of the Common Agricultural Policy in Portugal 2023-26
JUST RELEASED, including the Result Based Payments as “experiment”:**

Implementation in two pilot areas: Natura 2000, where conservation goals are identified

Advisory and everyday support: by research organization & local association

**Low complementarity with existing measures but high level of payments:
added value of this option for farmers**

Landscape elements as part of the requirements



**Many thanks for your
attention!**

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