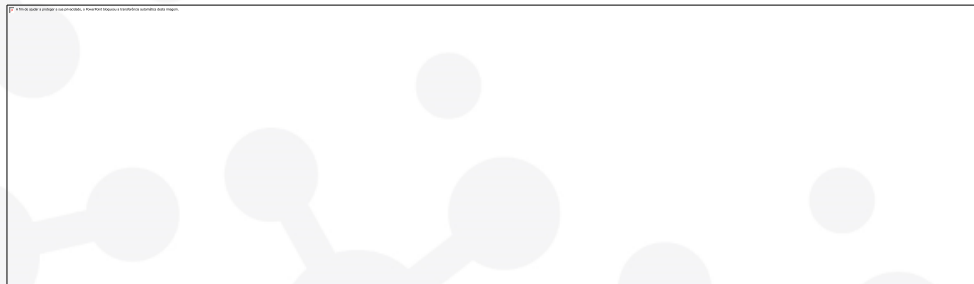


# Collaborative and strategic landscape planning for wildfire management – evidence from Portugal

Teresa Pinto-Correia, Jorgen Primdahl and Nuno Guiomar

MED & CHANGE, Universidade de Évora, Portugal.

Department of Geoscience and Natural Resource Management, University of Copenhagen, Denmark



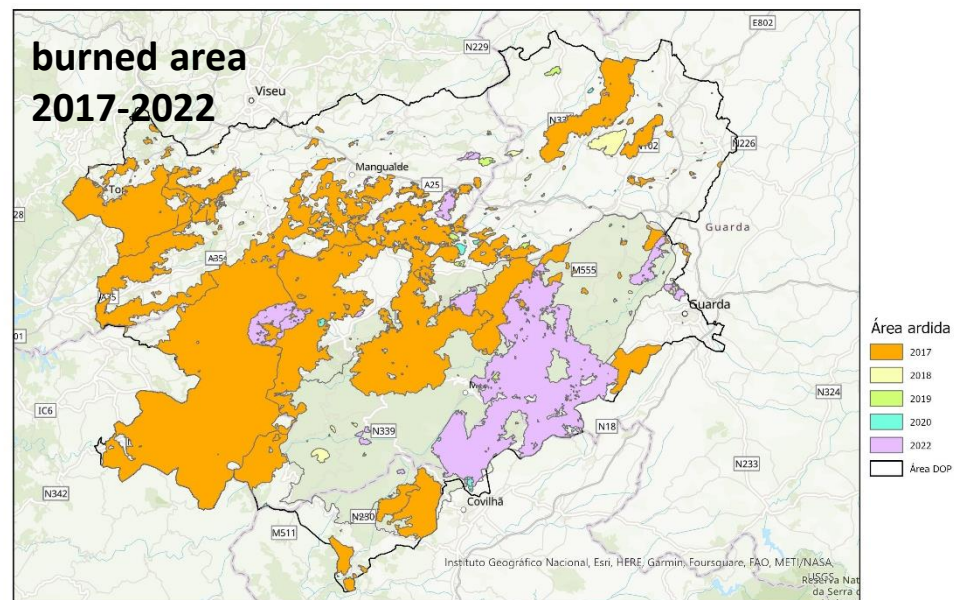
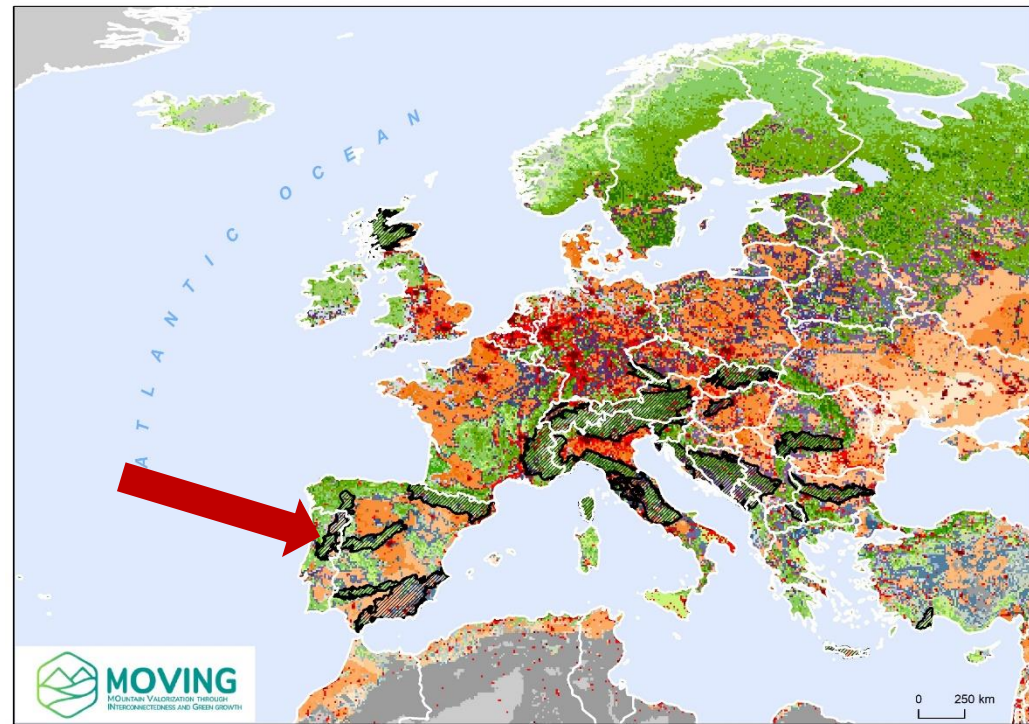
**Theme 4. Forest management, public policies, governance models and decision making**

**CHANGE**  
Global Change and Sustainability Institute



**MED**  
INSTITUTO MEDITERRÂNEO PARA A AGRICULTURA,  
AMBIENTE E DESENVOLVIMENTO

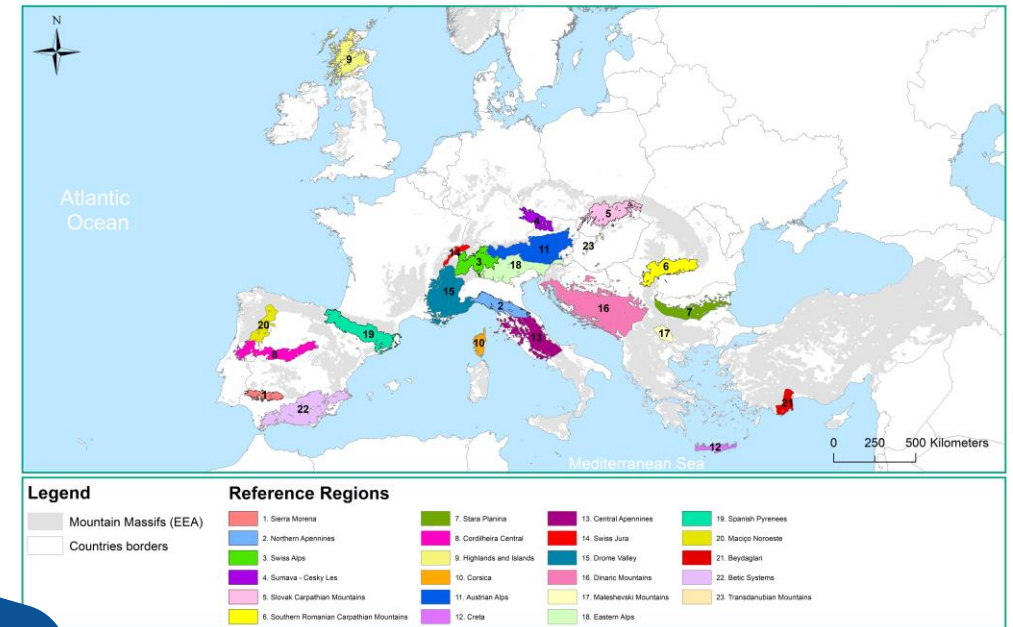
# Serra da Estrela



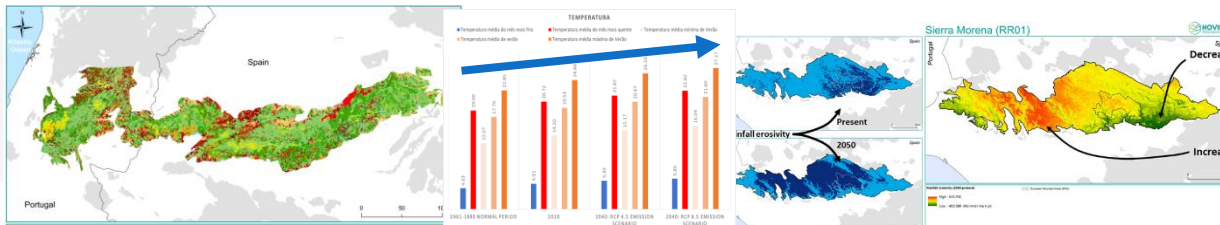
# MOVING : MOuntain Valorisation through INterconnectedness and Green growth 2020-2024, 23 partners, coord. Uni.Córdoba-Spain



Reference Regions



**Main objective** » build capacities and co-develop policy frameworks across Europe for the establishment of **value chains** contributing to the **resilience** and **sustainability** of mountain areas to climate change.



change & drivers of change  
spatial analysis  
value chain analysis  
value chain potential  
policy audit and design  
» CoP participatory work



## MOVING outcomes

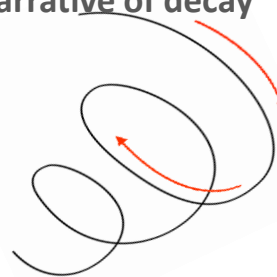
## EU mountains under stress

## » manifold challenges

- Climate change: higher temperatures, decrease of snow and rain, loss of glacier masses, drought, extreme events
- Remoteness, isolation, limited access to services and resources » depopulation and demographic decay
- Over/under exploitation, family farms, limited market opportunities, difficulties to innovate
- 'Free riding' large companies
- Pressure by multiple tourism activities



physical abandonment &  
environmental degradation &  
narrative of decay



- Shrub encroachment, biodiversity loss, landscape simplification, forest fires & soil erosion
- Land abandonment, loss of traditional knowledge
- Environmental degradation + costs of maintaining infrastructures
- Reduced added value, limited skills, difficulties to upscale VCs, innovate or increase production
- Loss of 'identity' » traditional varieties vs genomic editing, digitalisation
- 'Grabbing' the mountain label » abusive use

## Serra da Estrela, a mountain Natural Park in Central Portugal

» spatial x value chain analysis:

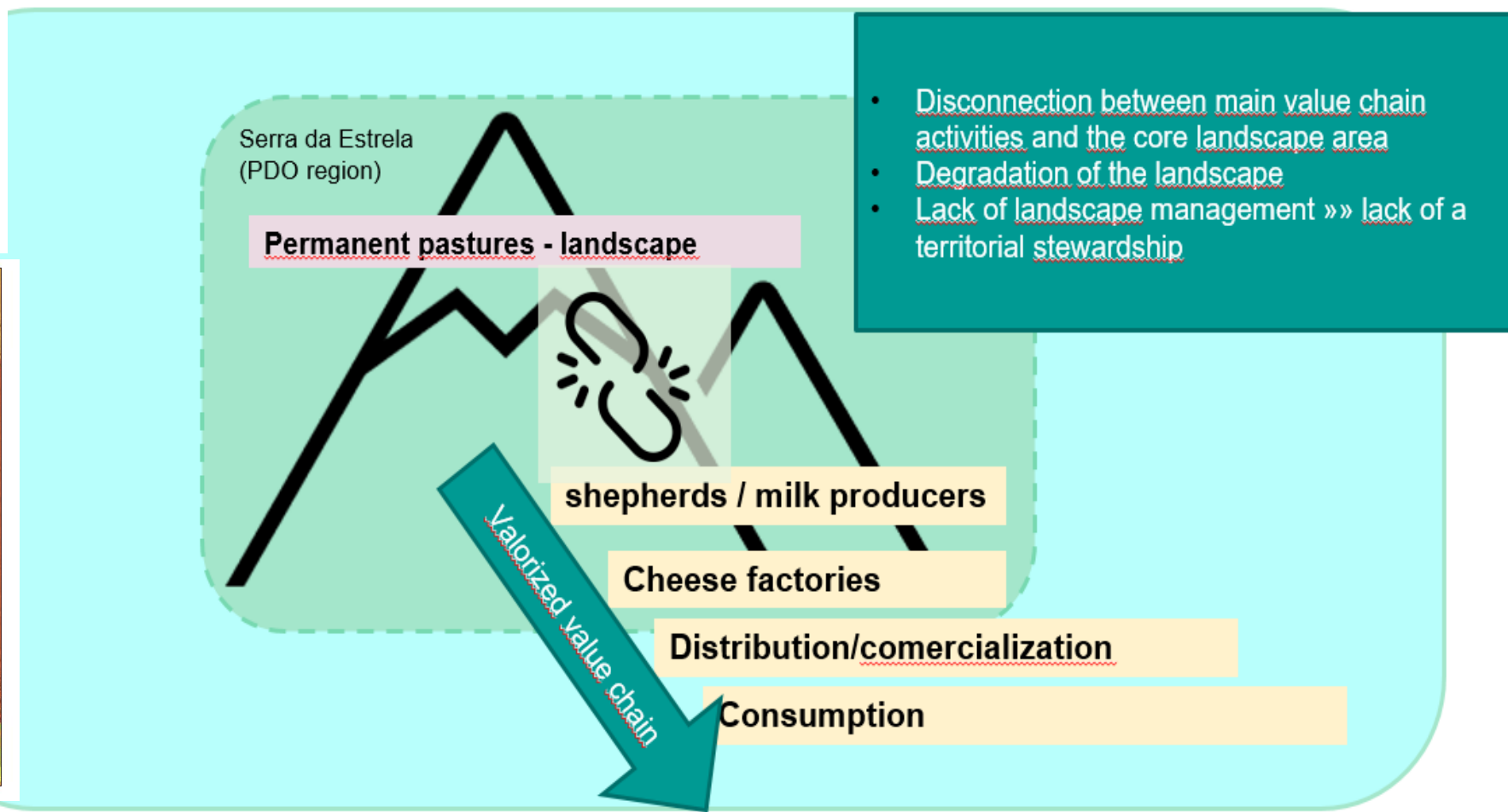
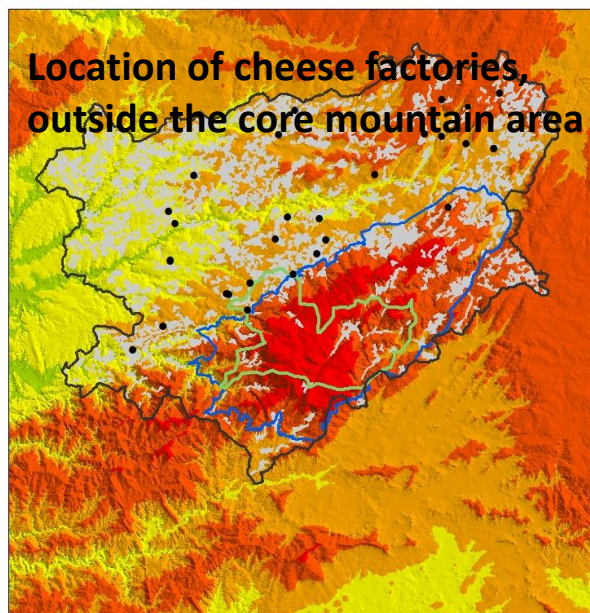
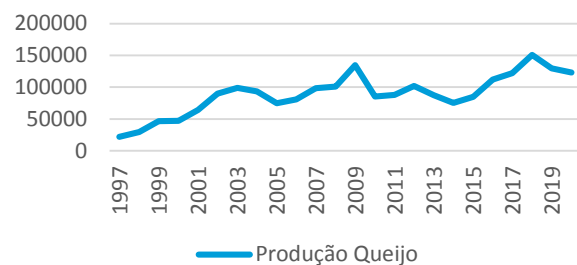
production of PDO cheese is increasing, but mountain pastures increasingly abandoned



**MOVING**  
MOUNTAIN VALORISATION THROUGH  
INTERCONNECTEDNESS AND GREEN GROWTH

### Territorial linkage missing

Evolution cheese production (kg)



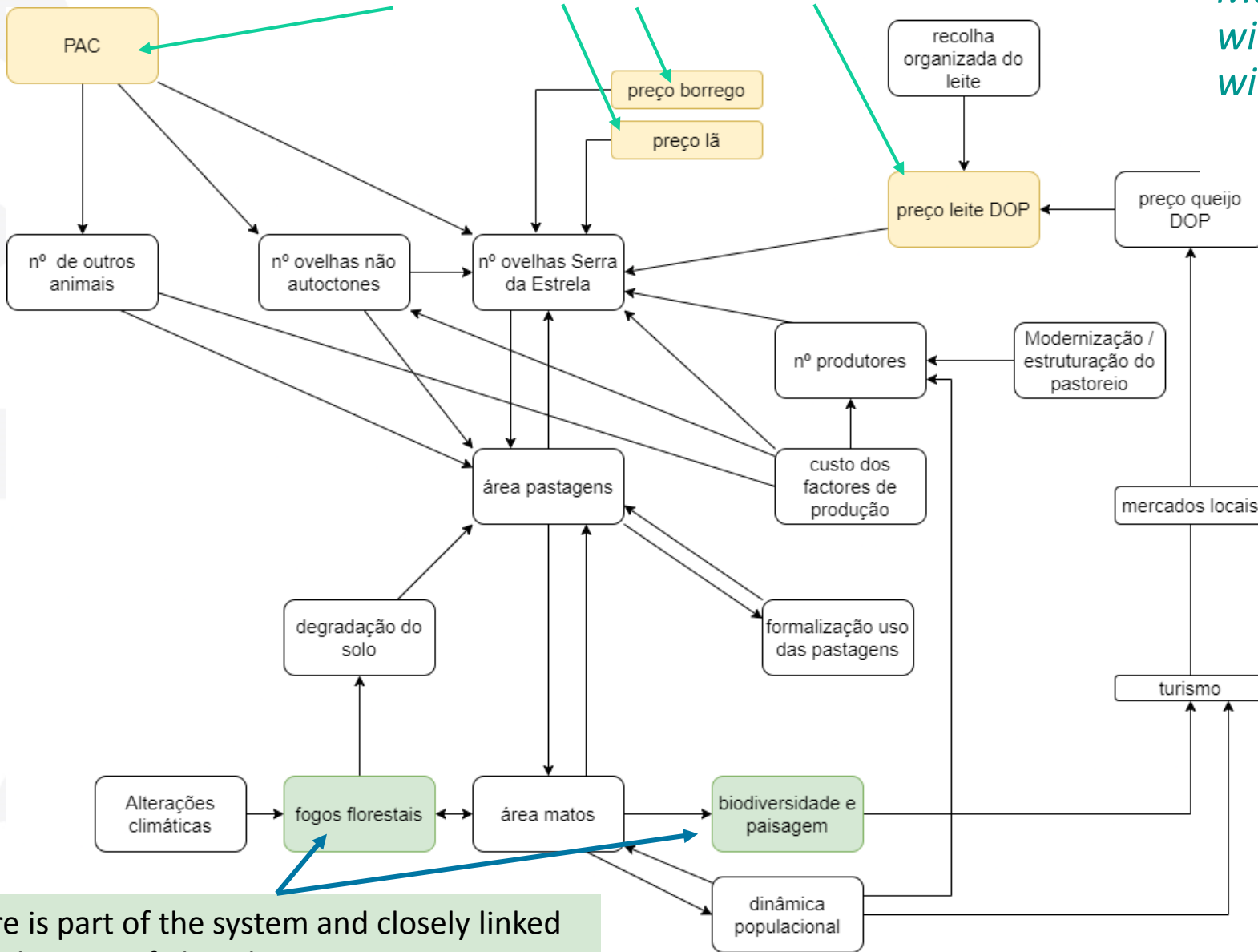
# The complex system of Serra da Estrela landscape

*Maintenance of mosaic landscape with forest patches intermixed with altitude pastures and crops*



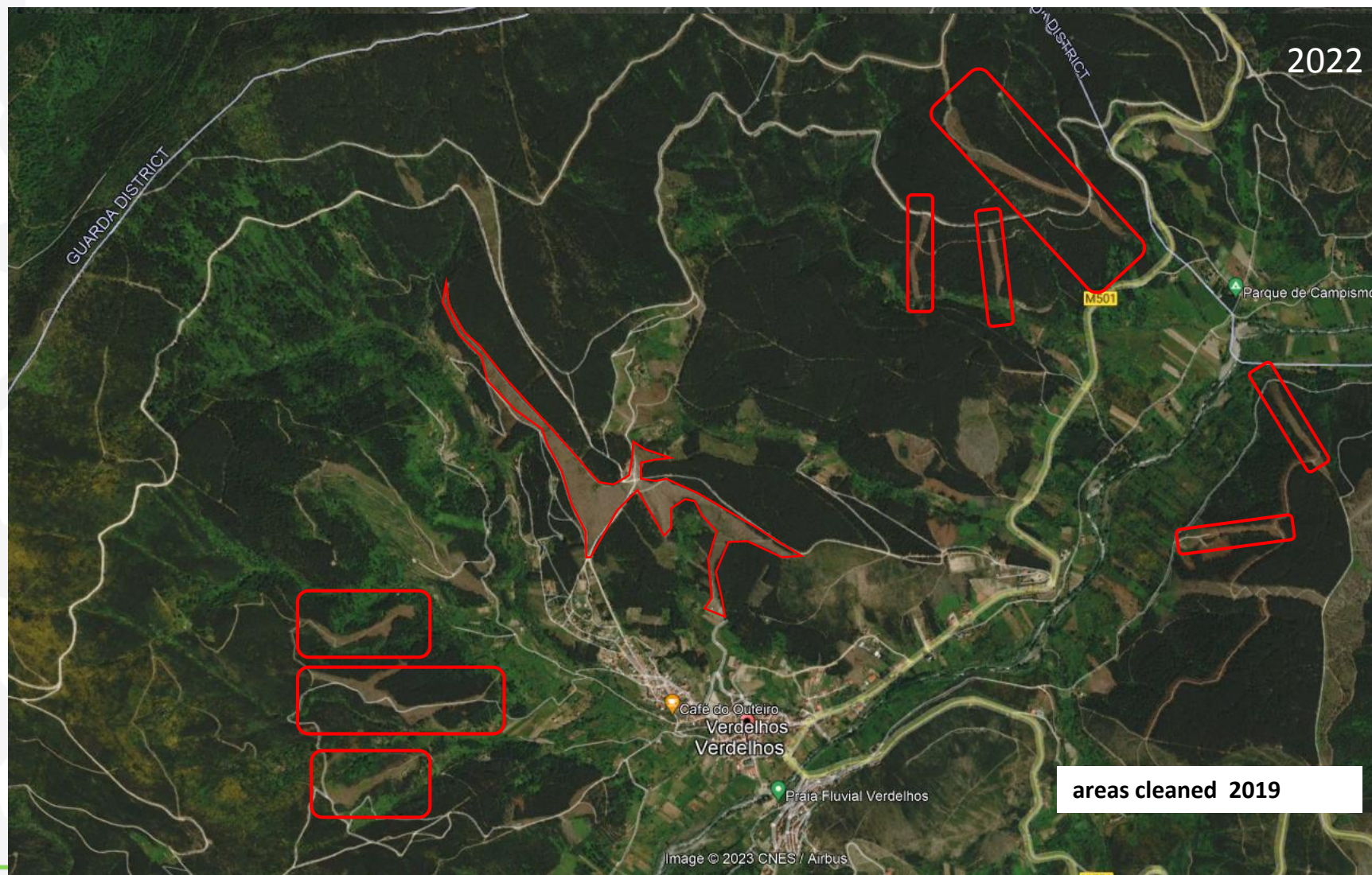
## Role of pastoralism acknowledged

- Support to shrub cleaning
- Grazing areas predesigned with landscape approach
- Payment for ecosystem services: fire risk reduction & biodiversity preservation
- Collective organization of producers



Fire is part of the system and closely linked to the area of altitude pastures

# Territorial linkage would mean PDO sheep to graze in pre-designed pasture areas – those required to fragment the forest, in more suitable locations



**A local success story**, run by a local association of *the commons*, which secure:

- Identify pasture patches
- Pasture's Seeding
- Shrub cleaning
- Tractor made available for sheep producers



Trust narrative within community

Number of sheepp producers raised: 6 in 2019  
» 16 in 2022

Grazed areas require less intervention of preventive controlled fire

# SERRA DE MONCHIQUE

## A landscape in fire

- Fire regime dominated by large-scale fires

1966; 1983; 2003; 2018 - ~17 years

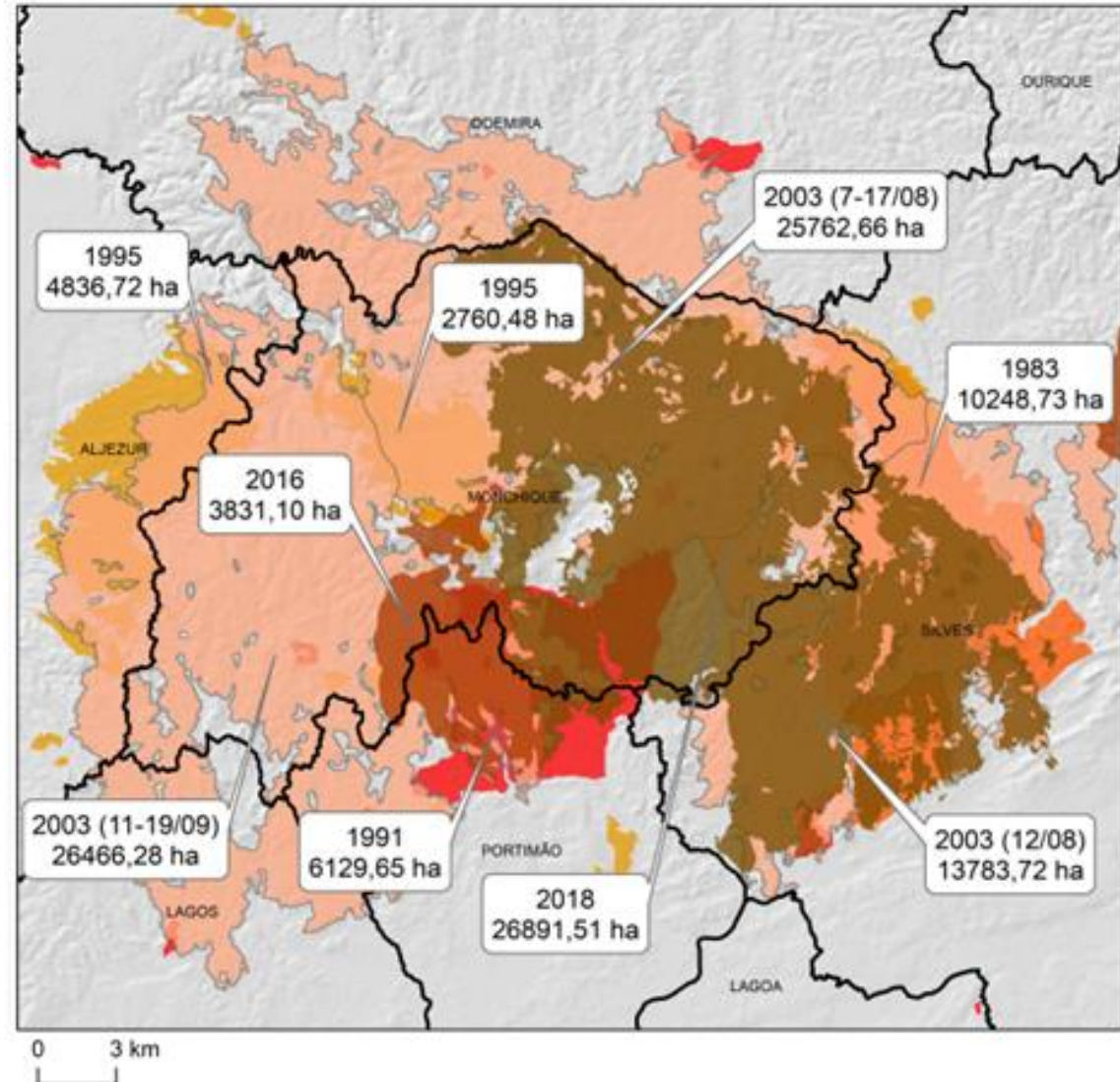
Weather-driven fire regime;  
successive droughts increase the likelihood of large fires



Requires the decrease of fuel load on mosaics and at landscape scale

*"(...) o da Serra de Monchique também em 1966, que calcinou alguns milhares de hectares de matos, medronhais, montados de sobro, pinhais, etc., desde Alferce até ao mar, numa extensão de mais de 40 km, tendo igualmente destruído inúmeras habitações e estábulos assim como elevado efectivo pecuário (...)"*

Goes, 1975





# SERRA DE MONCHIQUE

A landscape in fire

Triggered two independent initiatives to find solutions and speed up their implementation to reduce fire severity and extension in the region

PILOT IMPLEMENTATION OF THE NATIONAL PLAN FOR INTEGRATED WILDLAND FIRE MANAGEMENT



This project (REFORM/SC2021/063) is carried out with funding by the European Union via the Technical Support Instrument (TSI) and in cooperation with the Directorate-General for Structural Reform Support (DG REFORM) of the European Commission.



PROGRAMA DE  
REORDENAMENTO E  
GESTÃO DA  
PAISAGEM (PRGP)  
DA SERRA NOS  
CONCELHOS DE  
MONCHIQUE E SILVES



biodesign



# SERRA DE MONCHIQUE

key-actions to reduce high severity fire» selected from different projects

An **action** should be considered **key** if it is extremely important

**to make a landscape less vulnerable and more resilient to very severe fires.**

The choice of key-actions must be made based on the following criteria:

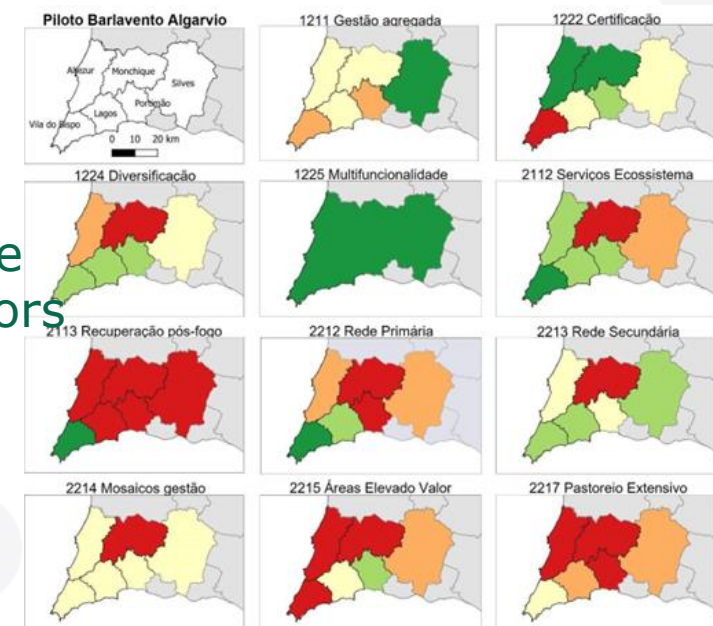
- i) **Knowledge of local stakeholders**, based on flexible and effectively participatory models;
- ii) Use of **quantitative diagnostic indicators** that allow the relevance of the action to be assessed;
- iii) Auxiliary information on **the feasibility and time required** to implement the action, as well as the need for its implementation.

PILOT IMPLEMENTATION OF THE NATIONAL PLAN FOR  
INTEGRATED WILDLAND FIRE MANAGEMENT



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use of quantitative  
diagnostic indicators



# SERRA DE MONCHIQUE

## Identification of front-runner projects » local engagement first



### PILOT IMPLEMENTATION OF THE NATIONAL PLAN FOR INTEGRATED WILDLAND FIRE MANAGEMENT



This project (REFORM/SC2021/063) is carried out with funding by the European Union via the Technical Support Instrument (TSI) and in cooperation with the Directorate-General for Structural Reform Support (DG REFORM) of the European Commission.

**Objetivo:**

Os programas têm por objetivo a proteção de pessoas localizadas na interface urbano-florestal, através da implementação e gestão de zonas de proteção e locais de concentração e abrigo nos aglomerados, bem como da sensibilização das populações para a prevenção de comportamentos de risco e para a adoção de medidas de autoproteção e de preparação face a incêndios rurais, por forma a reforçar a sua segurança

**Metodologia:**

Implicou a identificação de abrigos (2, um no Centro Multiusos e outro na Junta de Freguesia) e de refúgio coletivo (1), a nomeação de um Oficial de Segurança, a elaboração de um Plano de Evacuação, e a realização de simulacros (2 efetuados até à data).

**Inovação que apresenta:**

- Complementaridade de investimentos (materiais, formação), alguns anteriores ao surgimento do programa, que convergem para o seu objetivo central, o de proteger a população.

**Parceiros:**

- Junta de Freguesia de Alferce;
- Autoridade Nacional de Emergência e Proteção Civil.

**Financiamento:**

- Fundos públicos: Kits de primeira intervenção e despesas de formação efetuadas com orçamento da Junta de Freguesia, sinalética fornecida pela ANEPC;
- Fundos privados: FGC efetuada pelos proprietários.

**Pontos Fortes:**

- Empreendedores e pioneiros, são atualmente uma Unidade Local do Proteção Civil;
- Modelo testado num incêndio real de grandes dimensões com resultados positivos (num dia de festa, com cerca de 400 pessoas, significativamente superior à população residente em permanência);
- População preparada e equipada para primeira intervenção e autoproteção;
- Têm Faixa de Gestão de Combustível implementada e sinalética instalada;
- Têm registos com atualização periódica das condições das habitações, da mobilidade dos residentes, e de outras limitações classificadas por tipos;
- Formação e equipados para primeiros socorros.

**Limitações / Dificuldades:**

- População cada vez mais envelhecida;
- Precisam de meios de apoio que não estejam dependentes da rede elétrica (geradores);
- Sentem dificuldade em garantir apoios para mais formação que consideram relevante.

**Ações-chave na região do Barlavento Algarvio:**

- Programas Aldeia Segura Pessoas Seguras (projeto crítico principal);
- Gestão de combustível dos aglomerados rurais e envolvente de áreas edificadas.

**Replicabilidade no resto do país:**

- Todas as intervenções executadas ou propostas são de fácil replicabilidade na generalidade dos contextos.



Esta ficha foi desenvolvida ao abrigo do projeto "Pilot Implementation of the National Plan for Integrated Wildland Fire" (REFORM/SC2021/063) que é financiado pela União Europeia através da Direção Geral do Apoio às Reformas Estruturais (DG Reform) da Comissão Europeia. Estes projetos pioneiros foram escolhidos pela sua relevância, inovação, maturidade e replicabilidade.



To tackle the system complexity, in face of global change  
new tools required to progress for  
the resilience of the mountain forests & landscapes

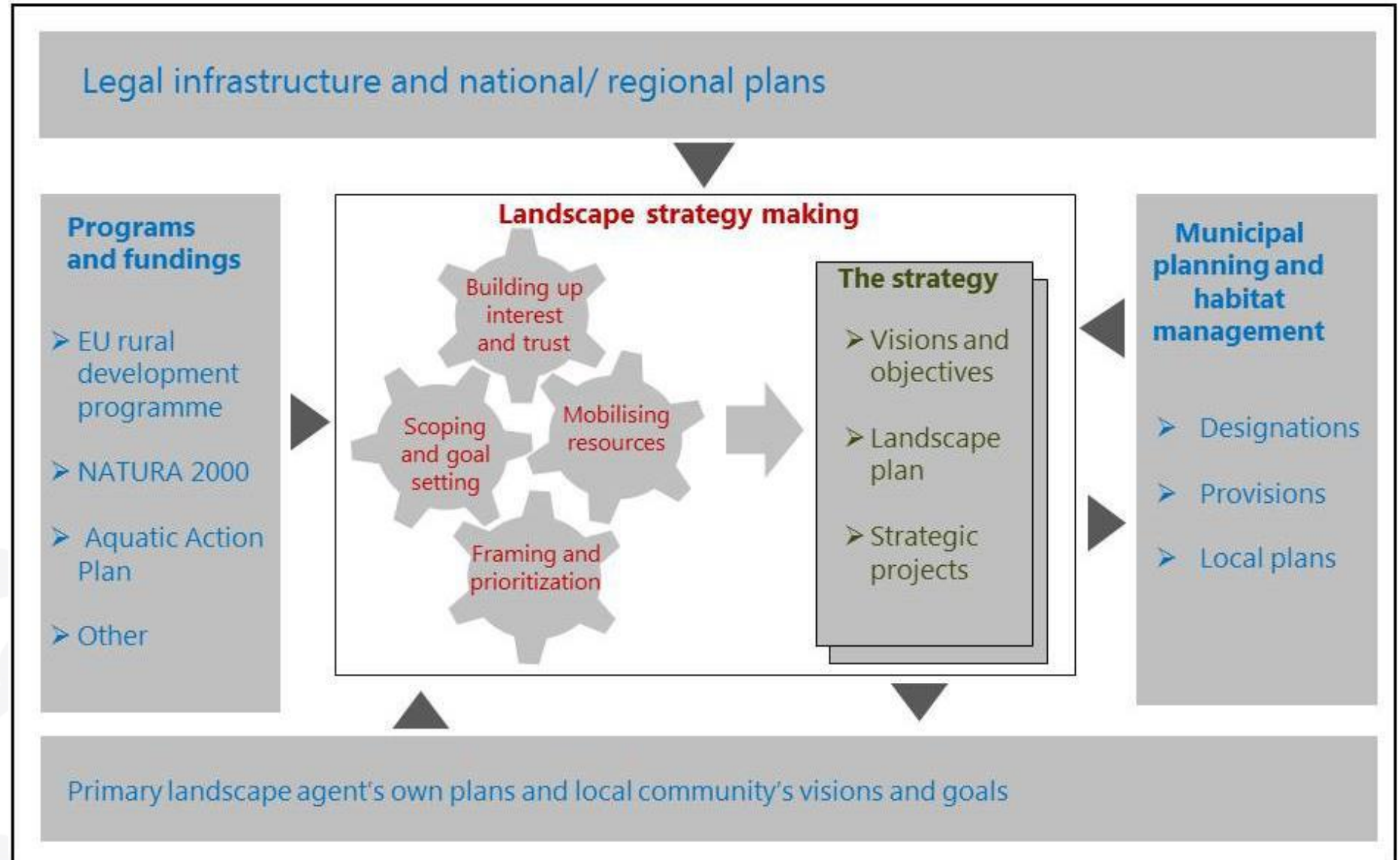


new generation of multi-level governance mechanisms  
context specific and territorialised  
more systemic use of existing policy tools

- **Stronger regulatory and institutional frameworks** with specific capacity for **meaningful multi-stakeholder engagement** in strategy-making processes
- **More targeted and integrated territorial development strategies** for mountain areas that more **precisely address the specificities** of regional context
- **Functional integration** between agricultural and forestry/ nature conservation sectors  
» a renewed role for pastoralism

## Landscape Strategy Making :

structured pathway for involvement and co-creation of a territorial strategy and related practical solutions



Thanks so much for your attention  
[www.med.uevora.pt](http://www.med.uevora.pt)

