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IUFRO FOREST ENVIRONMENT
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Society's perception of ecosystem services provided by Pyrenean oak forest

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cef Centro de Estudos Florestais

CERNAS Centro de Estudos de Recursos Naturais, Ambiente e Sociedade

Cultivar

Introduction

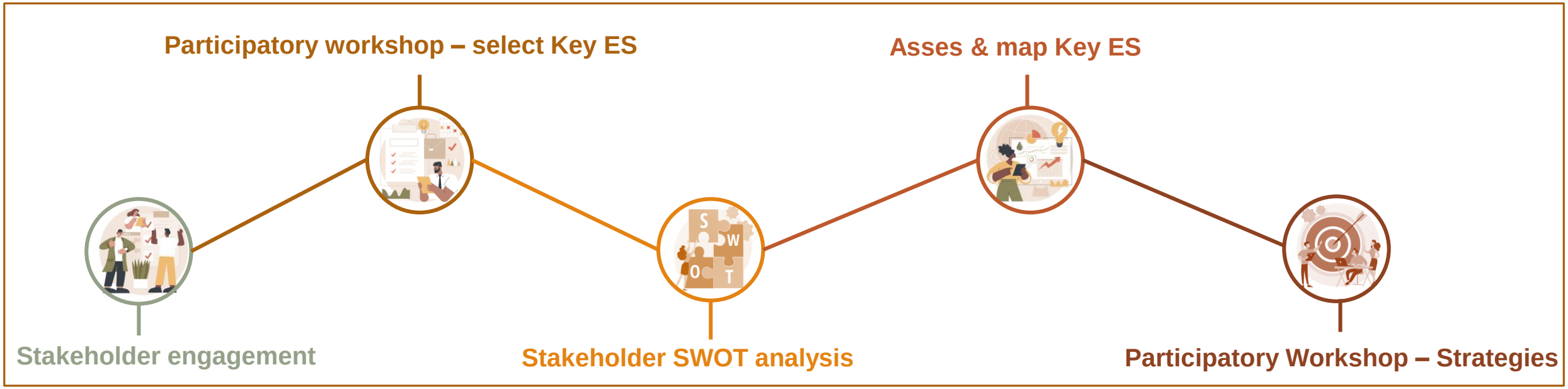
Pyrenean oak (*Quercus pyrenaica*)

- Important **native** broadleaf tree in Beira Interior (central Portugal), with **fragmented forests** due to anthropogenic causes & highly **threatened** by **climate change** (**presentation OC 3.3**);
- Provide a vast range of **Ecosystem Services** (ES) that we do not know if the society is aware of;
- **Recovery strategies** must be **grounded** in **society** and **landowners' insights** since conservation cannot be done without their support;

Background

Cultivar
Network for sustainable development & innovation in agri-food sector

Co-design solutions for rural areas' development based on ecosystem services framework



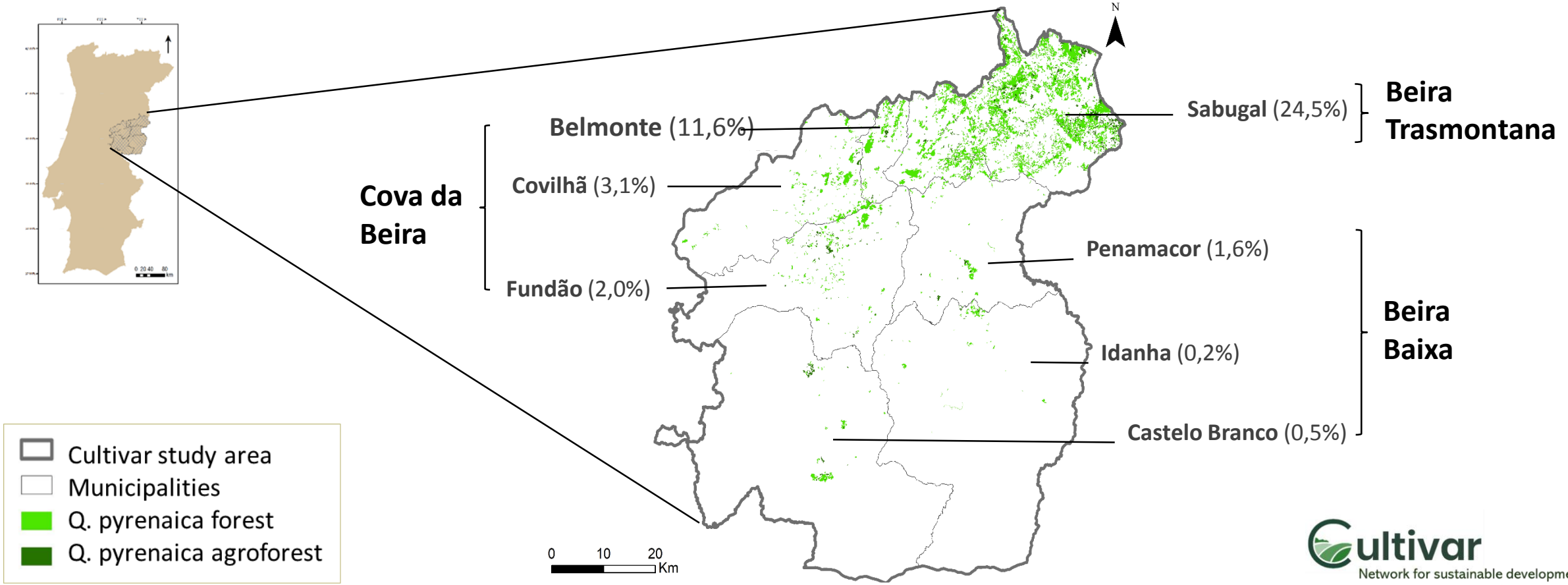
Oak forests emerged as one of the territory's strengths that should be valued, and it was important to also capture the local population's perceptions

Goals

- Understand how society perceives Pyrenean oak forests' importance, the **provided ecosystem services** (ES) and which ones they benefit from;

- Identify the **strategies** perceived as more efficient to enhance oak forest value and conservation status.

Study area – Beira interior



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Methods & sample

- **Online survey** (Google Forms®) from July & August 2022;
- **Dissemination**: social media groups & stakeholders support
- **Target audience**: natural/resident/working population in CULTIVAR study area;

 # 160 respondents

45% male

55% female

CULTIVAR study area

25% Cova da Beira

39% Beira transmontana

47% Beira Baixa

68% urban

32% rural

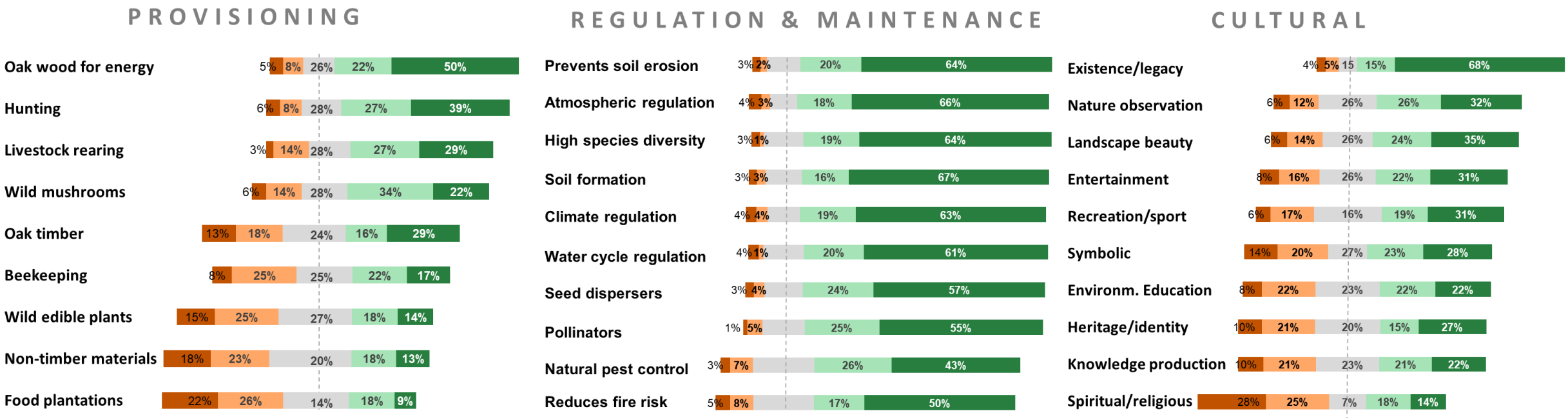
22% has oak forests:

75% were inherited;

11% bought it & have economic income;

Results

The ecosystem services (ES) perceived to be provided by the oak forests?



Scale: From 1 (not provided) to 5 (largely provided) 1 2 3 4 5

Results

Which ES respondents consider to directly benefit from?

Provisioning **(yellow icon);** Regulation & Maintenance **(blue icons)**; Cultural ES **(green icons)**

44% do recreation activities ♠

25% nature observation

19% pollinators associated to oak forests

39% firewood ♣ ♦

24% soil erosion control ♣

19% beautiful landscape

38% climate regulation (carbon skink) ♥

24% fire regulating service

18% seed-dispersing fauna associated

33% atmospheric regulation

21% soil formation & quality ♣

17% edible wild mushrooms

26% high species diversity

20% heritage to be preserved

16% pest control

Significant higher responses **(χ2<0,05)** from : ♠ urban residents; ♣ oak owners; ♦ Beira transmontana; ♥ women

Results

What oak landscape transmits to respondents?

Results

Oak forests should be more valued, and how?

94% agreed & **66%** proposed the valorization strategies

34% Awareness-raising about oak ES

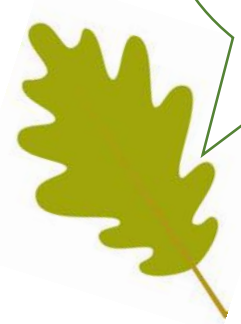
33% Oak aforestation

29% ES remuneration, incentives, tax exception

19% promote rural economy (grazing, wood, mushrooms, honey, etc)

17% Oak management

15% Oak protection / discourage exotic species



Conclusions

Despite the small sample size, it is possible to draw some conclusions that could be considered when defining strategies for this species:

- Society recognizes oak forests' importance and the provided ES but is less aware that they benefit from them;
- Also thinks oak forests should be preserved for future generations for their role as regulation and maintenance ES and recreational activities.
- However, currently, few rural economic dynamics support forest owners/managers:
  - firewood (primarily for self-use or local sale)
  - wild mushrooms picking (not always the owners)
  - hunting (decreasing activity but still relevant in rural areas)
  - some new agrosilvopastoral initiatives;

Awareness-raising about oak ES & "rural education"

Oak afforestation & management

Payment for ES, incentives, tax exception

Provide technical & scientific support to promote rural & circular economy


THANK YOU