Towards a local centre to explore Montado landscapes: A meeting point of science, art and humanities

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Structure of the presentation

1 – Montado landscapes of cork oak as silvo-pastoral systems of high conservation, economic and aesthetic values; emphasis on cultural ecosystem services

2 – A montado landscape as a matrix in a territorial unit in southern Portugal – Charneca Ribatejana

3 – Envisioning a local landscape observatory (LO) to explore landscape perceptions, identity, knowledge and cultural uses

4 – Future developments of the LO – creating partnerships and involving stakeholders to strengthen landscape identity and cultural values
1. The Montado landscape, a silvo-pastoral system: multifunctionality relevant social and economic values

An ecosystem of multiple services, functions and values
## Ecossystem Services, Millenium Ecosystem Assessment, 2003

<table>
<thead>
<tr>
<th>Provisioning Services</th>
<th>Regulating Services</th>
<th>Cultural Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>cork,</td>
<td>climate regulation</td>
<td>• spiritual and religious value</td>
</tr>
<tr>
<td>food (crops, fruit, etc)</td>
<td>air quality regulation</td>
<td>• cultural heritage</td>
</tr>
<tr>
<td>water</td>
<td>water regulation</td>
<td>• aesthetic value</td>
</tr>
<tr>
<td>fiber and fuel</td>
<td>water purification</td>
<td>• inspiration</td>
</tr>
<tr>
<td>wood, charcoal</td>
<td>erosion regulation</td>
<td>• education</td>
</tr>
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<td>genetic resources</td>
<td>pest and disease regulation</td>
<td>• identity</td>
</tr>
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<td>...</td>
<td>pollination</td>
<td>• social relations</td>
</tr>
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<td></td>
<td>Co2 sink</td>
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</tbody>
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### Supporting services

- soil formation
- nutrient cycling
- water recycling
- primary production
- photosynthesis
- provision of habitats
An open evergreen oak woodlands landscape, savannah-type, shaped by natural environments and human influences and land uses, adapted to Mediterranean climate, in southwestern Portugal. Proposed currently to a Candidature of the Montado as a World Heritage Site of UNESCO as a cultural landscape 2018?
Distribution of *Quercus suber* (Cork oak)

- Field data from inventories
- Distribution area
- Isolated populations

FAO, 2013
Cork oak distribution in Portugal
Sande Silva, J. (Coord.), 2007

Landscape Units, UE, 2004
UE, 2004
2. Charneca do Ribatejo – Landscape Unit

Landscape unit wit sandy soils, detritic formation (miocenic origin), rolling topography, land use dominated by Quercus suber, Pinus pinea

C. Unidades de paisagem UE, 2004
Two main units

**CAMPO** – the floodplain, alluvial soils

**CHARNECA** – mixed uses with mostly Cork oak, eucalyptus and pine forests **93%**

From PEA, 1999
Structural Agricultural Plan

ACHAR Charneca’s Farmers Association
160 members
60,000 ha area under management
Regulatory and Management tools

Mandatory:
- Regional Forest Plan
- Territorial Management Plan – PROTOLVT
- Municipal Land Use plan - PDM

Non mandatory (local initiative)
- Structural Agro-forest Plan - PEA
- Areas of Forest Intervention - ZIF
- Forest Management Plans - PGF (manager’s compliance)
Main land uses

Cork oak forests - Montado
SWOT analysis

Strenght:
• High natural value, biodiversity;
• Adaptation to adverse conditions: grazing, drought and fire;
• Production of cork, a natural product with several uses and qualities and economic value
• Multifunctionality – beekeeping, aromatic herbs, hunting, mushrooms, leisure, tourism;
• Aesthetic and landscape value and identity reference.

Weakness:
• Low population density area and less favored according to socioeconomic aspects
• Aged and few educated population
• Poor soils, low OM and erodible
• Land abandonment and retraction of oak forests
Threats

• Abandonment of traditional land management;
• Land use change and replacement with exotic fast growing species - eucalyptus
• Landscape fragmentation and impoverishment;
• Climate change – aridity driven degradation;
• Increased risks of forest fires, erosion and desertification
• Decline of montado – pests and diseases;
• Demographic reduction and population migration
• Decrease of landscape identity

Opportunities

• Large area of natural landscape
• Cork certification and economic valuation
• Multifunctional resources – mushrooms, beekeeping, aromatic plants, biodiversity
• Solar energy
• New rural functions and expectations – recreation, leisure, ecotourism, bird watching, landscape experiencing
• Landscape enhancement, improving knowledge and identity
• Creation of new jobs
• Newcomers – lifestyle driven
3. A montado farm in Charneca Ribatejana unity, Chamusca Casal do Gavião, Gaviãozinho, Chouto parish

Occupance density 4.4 inhab/km²

Total area 560 ha:
- 380 ha cork oak,
- 50 ha eucalyptus,
- 20 ha biodiverse sown pasture
- 40 ha irrigated crops (pivot),
- 10 ha reservoirs,
- 60 ha arable land
- 400 sheep (organic production)
Casal do Gavião, Charneca do Ribatejo

A traditional farm asset. Towards a local Landscape Observatory?
Landscape OBSERVATORIES (LO)

Top-down model
Led by institutions, central/regional
Data-container monitoring
Expert led model

Bottom-up model
Place-based/local
Mediator/catalyzer
Open source
Participatory model/interaction

Creation of networks, consortiums, initiatives, events, etc.

Concepts
KNOWLEDGE CONSCIOUSNESS SHARING
(Noguè, 2009)
Drawing and painting as a way of experiencing Montado landscapes
Artistic residences, since 2010, once a year
The process of cork harvesting

Manuel Casa Branca, drawing, 2013
Isabel Raposo, drawing, 2013
Manuel Casa Branca, sketch book, 2014

Cristina Paixão, drawing, 2015
4. Future developments
Setting the place
Establish partnerships:
Local institutions – municipality, schools, farmers and forest associations
Regional bodies - administration, technical and professional associations
Universities, research centres

Promote events:
Education, divulgation, listening, training, promotion of awareness, shared project planning, scientific meetings and field trips, focus groups, art exhibitions, workshops e.g.

Calvo, L. 2013 – Guidelines for the establishment of Local Landscape Observatories
The landscape that inspires...

Rob Miller, watercolour, 2014

Artistic residences and exhibitions
The landscape we eat...

Collecting and cooking mushrooms
Researching the landscape...
Field trip of the Department of Geography, Ghent University, BE

Observation sheet

OBSERVATION SHEET – PORTUGAL 2016

Date: [blank]
ISO observation [letter + number] x number sample:

Hour: [blank]
Place [village]:

Observer: [blank]

GPS: X coordinate: [blank] Y coordinate: [blank] Z coordinate: [blank]

Distance to previous sample point (m): [blank]

Weather conditions: [blank]

Photograph numbers: [blank]

1. Beach

Tide: (1) low (2) rising (3) high (4) lowering (Tables from Instituto Hidrografico)

Wave Height: [blank]

Period/frequency:

Direction (N/S/E/W):

Type of wave:

(1) near to sea (weak)

(2) 'lobe'

(3) close to the shoreline (strong)

(4) other

2. Topography

(1) flat

(2) slope (N S E W)

(3) undulating

In case of slope: concave = convex

3. Slope

(1) 0° – 2° (2) 2° – 8° (3) 8° – 22° (4) > 22°

Exact percentage or degrees (to be calculated based on

4. Soil

Moisture conditions: [blank]

[diagram of soil moisture]

Colour soil (Munsell scale code):

[Hue, Chroma, Value chart]

Top-soil conditions:

(1) bare bedrock (> 75%)

(2) bedrock, partially bare (50–75%)

(3) loose soils dominating (> 75%); gravel, clay, sand, loam, marl

(4) man-made, anthropogenic

Composition of the sand (dominant minerals):

[diagram of mineral composition]
Knowing the landscape...
Visit of the primary school of Chouto
Reading the landscape...
Landscape literary meetings
What is landscape identity?
A Transactional model

Loupa Ramos, Bernardo, Carvalho & Van Eetvelde, 2016
“The gentle slopes of the Montado make the old forests a unique visual experience”.

Thank you

Rob Miller ‘Cathedral’, watercolour, 2015