Background

Legislation

1. General technical conditions for pasture use in areas managed by the regional government (2012)

2. Particular conditions for each pasture

1. General technical conditions for pasture use

- Contracts:
  - length of use (years)
  - duties of the user (annual grazing, fire prevention, improvements)
- Price:
  - per ha, according to carrying capacity
  - improvements can be discounted from original price
- Control:
  - periodic visits by forest guards (biodiversity, soil, landscape quality, forest preservation, vulnerability to hazards...)

Isabel Casasús
2. Particular conditions for a given pasture area

**Characteristics**
- pasture size (ha)
- price
- no. of heads
- period of use

**Rights of use**
- access

**Duties of user**
- fencing
- maintenance of infrastructures

**Compatibility with other uses**
- hunting
- timber extraction

**Licence**

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**A practical example**

**La Garcipollera Research Station**

Research station to study mountain livestock production systems (beef cattle and sheep)

**Grazing resources**

- high mountain pastures
- forest pastures
- valley meadows

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**Altitude, m**

- 2000
- 1500
- 1000
Our high mountain pastures

Information in the Grazing Licence

<table>
<thead>
<tr>
<th>pasture size (ha)</th>
<th>no. of heads</th>
<th>period of use (jan-dec)</th>
<th>price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fenero-Iguácel-Vacún</td>
<td>La selva-Espata</td>
<td>Recuasta Total</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ha</td>
<td>308</td>
<td>150</td>
<td>555</td>
</tr>
<tr>
<td>heads cattle</td>
<td>350</td>
<td>50</td>
<td>400</td>
</tr>
<tr>
<td>heads sheep</td>
<td>1280</td>
<td>920</td>
<td>2200</td>
</tr>
<tr>
<td>heads mares</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>total LU</td>
<td>350</td>
<td>272</td>
<td>138</td>
</tr>
</tbody>
</table>
Why the difference?

vegetation cover
slope
other factors?

Actual use by cattle (Villalba et al., 1995)
around 100 cows in 100 ha = 1 LU/ha

Actual use by sheep (Blanch et al., 1995)
around 750 sheep in 450 ha = 0.25 LU/ha
<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>ACTUAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ha</td>
<td>1013</td>
<td>450</td>
</tr>
<tr>
<td>heads cattle</td>
<td>400</td>
<td>190</td>
</tr>
<tr>
<td>heads sheep</td>
<td>2200</td>
<td>280</td>
</tr>
<tr>
<td>heads mares</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>total LU</td>
<td>760</td>
<td>232</td>
</tr>
<tr>
<td>€</td>
<td>14571</td>
<td>14571</td>
</tr>
<tr>
<td>€/ha</td>
<td>17.76</td>
<td>32.38</td>
</tr>
<tr>
<td>€/LU</td>
<td>18.83</td>
<td>62.81</td>
</tr>
<tr>
<td>LU/ha</td>
<td>1.06</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Villalba, Blanch, 1995

**Actual census**

but 232 LU / 1013 ha = 0.23 LU/ha

considering the whole range

This is what happens in our pastures... in **PRACTICE** and at the small scale

... but what is the **THEORY** for administrative purposes at a larger scale?
Eligibility of pastures for CAP basic payments
UE agricultural subsidies calculated at the farm level on a per ha basis
Coefficient = f (slope * land cover * vegetation type)

Vegetation type:
0, 1 (admissible, not admissible)

Land cover:
0 - 1 (NDVI vegetation, not vegetation) (Aragón)
SLOPE: average slope ≤ 60% 1
60% < average slope ≤ 75% 0.75
75% < average slope ≤ 85% 0.5
85% < average slope ≤ 100% 0.25
average slope >100% (45°) 0

Pasture Eligibility Coefficient (PEC)

PEC = Vegetation Factor x Land cover Factor x Slope Factor x 100

Eligible area = Total area x PEC

Each pasture range is a sum of polygons with different eligibility index according to SLOPE, LAND COVER & VEGETATION TYPE
How do we reconcile the low eligibility of the pastures in higher environmental risk with their preservation by livestock use?