Sustainability of the dairy sheep farming: Examples from Greece and Spain

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Seminar of the FAO-CIHEAM Network on Sheep and Goats

*Innovation for Sustainability in Sheep and Goats,*

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Objective and background

Objective
To compare the sustainability level of dairy sheep farming between Greece and Spain
To present the status and diverse points
To explore factors that support the dynamism of farms

Background
The assessment of the sector’s sustainability level will help to develop the appropriate decisions/policies at farm or territorial level
FLINT project
Farm Level Indicators for New Topics in policy evaluation

New Policy challenges
CAP 2014-2020 – Sustainability of farming

Need for new evaluation requirements

New data
Measuring trends in sustainability

Two contributions of FLINT data

1. Improving standard analyses by adding useful information
2. Making new analyses possible
Dimensions of Sustainability

Economic

Environmental

Social

Sustainability
The data

- 9 countries: DE, EL, ES, FI, HU, IE, NL, PL, FR
- Total of 1,099 farms
- Sectors: Sheep, Dairy, Field crops, Vegetables, Permanent crops

• FLINT data
  - Same year as FADN
  - Approximately 400 FLINT variables (on economic, environmental, social themes)
  - 150 farm-level indicators calculated on these variables
Economic Sustainability

Profitability
• Farm Financial Resources, Income
• Efficiency
• Productivity

Autonomy
• Subsidies, External Financing
• External Inputs – (Animal Feeding – Mineral Fertilizers)

Diversification / Risk exposure
• Agricultural Activities
• Non-Agricultural Activities
• Insurance

Innovation
• Production
• Market

Quality labels
• PDO - PGI
• Organic

Market outlets
• Coop
• Sort supply chains
Environmental Sustainability

Input Management

Quality of Natural Resources

Environmental Sustainability
Environmental Sustainability

Input Management

• Nutrients
• Pesticides
• Water, Energy Consumption
• Land Management

Quality of Natural Resources

• Biodiversity
• Greening
• Emission of greenhouse gases
• Soil quality (physical, chemical, biological issues)
Social Sustainability

On Farm factors

External Factors

Social Sustainability
Social Sustainability

On Farm factors
- Education
- Advisory services
- Employment
- Working time and conditions
- Quality of Life

External factors
- Multi functionality
- Quality of products
- Engagement / Social diversification
## Structural Characteristics

<table>
<thead>
<tr>
<th>Structural Characteristics</th>
<th>Ipeiros, Greece</th>
<th>Navarra, Spain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Livestock units (LU)*</td>
<td>29.92</td>
<td>57.07</td>
</tr>
<tr>
<td>Land, UAA (ha)*</td>
<td>25.34</td>
<td>37.91</td>
</tr>
<tr>
<td>Stocking density (LU/ha)</td>
<td>2.33</td>
<td>5.30</td>
</tr>
<tr>
<td>Number of heads LU sheep and goats*</td>
<td>29.84</td>
<td>53.82</td>
</tr>
<tr>
<td>Labor, number of annual working units (AWU) on the farm</td>
<td>1.80</td>
<td>2.05</td>
</tr>
<tr>
<td>Family labor</td>
<td>84%</td>
<td>84%</td>
</tr>
<tr>
<td>Age (years)</td>
<td>53.60</td>
<td>53.41</td>
</tr>
<tr>
<td>Successor</td>
<td>40%</td>
<td>56%</td>
</tr>
<tr>
<td>Sheep and Goat Production</td>
<td>9,256</td>
<td>15,103</td>
</tr>
<tr>
<td>Ewe’s and Goat Milk</td>
<td>35,342</td>
<td>132,327</td>
</tr>
</tbody>
</table>
### Economic Indicators

<table>
<thead>
<tr>
<th></th>
<th>Ipeiros, Greece</th>
<th>Navarra, Spain</th>
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</thead>
<tbody>
<tr>
<td>Output per ha (€/ha)*</td>
<td>2,853</td>
<td>11,415</td>
</tr>
<tr>
<td>Output per LU (€/LU)*</td>
<td>1,930</td>
<td>2,681</td>
</tr>
<tr>
<td>Output per AWU (€/AWU)*</td>
<td>32,270</td>
<td>70,104</td>
</tr>
<tr>
<td>Family farm income per FWU (€/FWU)*</td>
<td>14,188</td>
<td>26,092</td>
</tr>
<tr>
<td>Subsidies sheep and Goat*</td>
<td>1,048</td>
<td>7,052</td>
</tr>
<tr>
<td>% Subsidies per LU related to gross farm Income</td>
<td>0.05</td>
<td>0.12</td>
</tr>
<tr>
<td>Specific Livestock Costs</td>
<td>763</td>
<td>781</td>
</tr>
<tr>
<td>Total livestock output*</td>
<td>45,225</td>
<td>149,643</td>
</tr>
<tr>
<td>Total livestock output per LU*</td>
<td>1,569</td>
<td>2,649</td>
</tr>
<tr>
<td>Direct sales as main outlet (% of farms)</td>
<td><strong>13</strong></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>
## Environmental Indicators

<table>
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<tr>
<th>Environmental Indicators</th>
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</thead>
<tbody>
<tr>
<td>GHG emissions at farm level</td>
<td>87</td>
<td>162</td>
</tr>
<tr>
<td>GHG emissions at farm level per livestock unit*</td>
<td>2.85</td>
<td>2.91</td>
</tr>
<tr>
<td>GHG emissions at farm level per Euro of output</td>
<td>0.0001</td>
<td>0.0013</td>
</tr>
<tr>
<td>N balance at farm level</td>
<td>97</td>
<td>173</td>
</tr>
<tr>
<td>Social Indicators</td>
<td>Ipeiros, Greece</td>
<td>Navarra, Spain</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
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</tr>
<tr>
<td>Satisfaction with job</td>
<td>7.7</td>
<td>7.4</td>
</tr>
<tr>
<td>Satisfaction with work-life balance*</td>
<td>4.6</td>
<td>6.1</td>
</tr>
<tr>
<td>Satisfaction with being a farmer*</td>
<td>6.8</td>
<td>7.8</td>
</tr>
<tr>
<td>Satisfaction with freedom of making decision*</td>
<td>9.1</td>
<td>7.4</td>
</tr>
<tr>
<td>Stress perception*</td>
<td>8.1</td>
<td>5.3</td>
</tr>
<tr>
<td>Social Diversification Index*</td>
<td>1.16</td>
<td>2.79</td>
</tr>
</tbody>
</table>
Conclusions

• **High degree of heterogeneity** between Spain and Greece

**BUT**

• The use of **processing at farm level**
• The use of **sort supply chains and qualitative labels**
• The **social diversification index**
Thank you!

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