Teagasc National Farm Survey: The Sustainability of Small Farming in Ireland

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Outline

• Motivation
• Profiling Small Farms
• Teagasc NFS Small Farms Survey
• Economic sustainability of Small Farms
  » Family Farm Income
  » Reliance on Direct Payments
  » Off-farm Income
  » Viability
• Summary of Results
• Demographics
Why look at Small Farms?

• On-going policy debate around the role Small Farms play in rural areas in protecting the landscape and environment.

• They maintain rural welfare, keep rural areas populated, contribute to the rural non-farm economy.

• Small Farms occupy 16% of Irish farmland.
  » contribute less than 5% of the total agricultural output

• Important to measure the impact of small scale farming on soil, water and air quality as well as biodiversity.

• Rural Development Programme – impact evaluation.
Why look at Small Farms?

- In 2010 Small Farms were in receipt of 13% of the national envelope of Pillar I payments (Hanrahan, 2014).
- This equates to approximately €227 million or €4,300 per farms.
- Estimates that CAP convergence model would increase the share of Pillar I payments received by small farms to 16.5%.
- Renwick (2013) concluded that each €1 of direct payment support underpins €4.28 of aggregate output in the economy and €2.37 of GDP.
- Clearly it is in the best interests of the wider rural economy to protect the value of these payments and to improve the economic and social conditions on small scale farms.
Profiling Small Farms

• The CSO estimated that in 2013 there were 52,300 Small Farms in the country (37% of all farms) down from 72,830 in 1991.
• Over 32,000 (62%) of these were located in the Border, Midland and West (BMW) region.
• 43% of Small Farms had a land area of 10 hectares or less.
• Cattle farming is the predominant enterprise on Small Farms, with 61% of Small Farms categorised as Cattle Farms.
• For the purposes of this study we define farms with a Standard Output (SO) of €8,000 or less as Small farms. This is the equivalent of 6 dairy cows, 6 hectares of wheat or 14 suckler cows.
Teagasc NFS Small Farms Survey 2015

- Regular NFS Survey collects data from farms with a Standard Output of more than €8,000.
- Farms below this threshold ‘Small Farms’ are compared here to the 2015 NFS sample ‘Larger Farms’.
- Data collected from counties where there was a prevalence of these farms - Donegal, Mayo, Galway, Longford and Kerry.
- Cattle and Sheep farms were selected as these are the predominant farm types in this size category.
- Data collected on 180 Small Cattle and Sheep Farms.
  » Representative of 35,000 farms nationally.
(a) Proportion of Irish farms (less than €8,000 SO) by County;
(b) No. of Farms Surveyed by County – Small Farms Survey

Source: CSO

Source: Teagasc NFS
Data analysis

- The economic situation of Small Farms is compared to farms in the regular Teagasc NFS sample (those with a SO of €8,000 or greater) which we refer to as Larger Farms.

- It should be noted that there is already a wide spread of standard output within the farms surveyed within the Teagasc NFS.

- Given that all of the Small Farms surveyed were specialist Cattle or Sheep farms, the comparison with Larger farms includes Cattle and Sheep farms only.
Family Farm Income

- FFI - principal economic measure produced by the Teagasc NFS.
- FFI represents the return from farming for the farm family to their labour, land and capital.
- FFI does not include the non-farm component of farm household income.

Average Family Farm Income

Cattle and Sheep Farms 2015

<table>
<thead>
<tr>
<th></th>
<th>Larger Farms</th>
<th>Small Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Output</td>
<td>46,235</td>
<td>11,351</td>
</tr>
<tr>
<td>(of which direct payments)</td>
<td>15,217</td>
<td>5,474</td>
</tr>
<tr>
<td>Total Costs</td>
<td>31,265</td>
<td>8,434</td>
</tr>
<tr>
<td>(of which direct costs)</td>
<td>15,112</td>
<td>3,304</td>
</tr>
<tr>
<td>( of which overheads)</td>
<td>16,153</td>
<td>5,131</td>
</tr>
<tr>
<td>Family Farm Income</td>
<td>14,970</td>
<td>2,917</td>
</tr>
</tbody>
</table>

Average FFI on Small farms was 20% that of Larger Farms in 2015.
Adjusting for Farm Size

- Average UAA of Small Farms was 14 ha. compared to 40 ha. on Larger Farms.
- Gross output on Small Farms 30% less than on Larger Farms.
- Similar level of direct payments per hectare.
- Costs consumed 68% of output on Larger Farms compared to 74% on Small Farms.

### Average Family Farm Income per hectare

**Cattle and Sheep Farms 2015**

<table>
<thead>
<tr>
<th></th>
<th>Larger Farms</th>
<th>Small Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gross Output</strong></td>
<td>1,137</td>
<td>801</td>
</tr>
<tr>
<td>(of which direct payments)</td>
<td>373</td>
<td>387</td>
</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td>769</td>
<td>596</td>
</tr>
<tr>
<td>(of which direct costs)</td>
<td>371</td>
<td>233</td>
</tr>
<tr>
<td>( of which overheads)</td>
<td>398</td>
<td>363</td>
</tr>
<tr>
<td><strong>Family Farm Income</strong></td>
<td>368</td>
<td>205</td>
</tr>
</tbody>
</table>

FFI per ha on Larger Farms 80% higher than on Small Farms - differential of €163 per ha.
• 76% of Small Farms earned an average FFI of €5,000 or less compared to 24% of Larger Farms.
• 18% of Small farms earned between €5,000 and €10,000.
• Conversely, almost half of the Larger farms earned more than €10,000 and 23% earned more than €20,000 on average.
Income by Farm System

- Sizeable difference in FFI across both groups.
- FFI on the smaller Cattle Rearing farms was about 25% of that on their larger counterparts.
- Larger differential on Cattle Other farms, where the average income on the Larger Farms was more than five times that of the Small Farms.
- Smaller Sheep farms performed worst with the income difference almost seven-fold.
Direct Payments

- Small difference in direct payments per ha. on small and large farms.
- Greater reliance on these payments across small farms.

**Value of direct payments and contribution to income 2015**

<table>
<thead>
<tr>
<th></th>
<th>2015 Larger Farms</th>
<th>2015 Small Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direct Payments</td>
<td>Per ha</td>
</tr>
<tr>
<td>Cattle Rearing</td>
<td>€ 13,158</td>
<td>369 %  102</td>
</tr>
<tr>
<td>Cattle Other</td>
<td>€ 15,478</td>
<td>407 %  95</td>
</tr>
<tr>
<td>Sheep</td>
<td>€ 17,016</td>
<td>342 %  108</td>
</tr>
</tbody>
</table>
Direct Payments

• Difference in composition of payments – Single Farm Payment of more significance on Larger Farms.

• Agri-environmental scheme and disadvantaged area payments important on Smaller Farms.
Off-Farm Income

- Given the extremely low levels of farm income, it is not surprising that a large proportion of Small Farms have some alternative income source.
- In 2015 the figure was 88% of Small Farms and 77% of Larger Farms.
- Higher proportion of Small farm households in receipt of pensions.
- Social welfare payments more prevalent on Small Farms.
- Questions around the sustainability of those without another income.

<table>
<thead>
<tr>
<th>Farmer/Spouse</th>
<th>Off-Farm Job</th>
<th>Pension</th>
<th>Unemployment/Farm Assist</th>
<th>Job/Pension/Social Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Farms</td>
<td>45%</td>
<td>39%</td>
<td>20%</td>
<td>88%</td>
</tr>
<tr>
<td>Larger Farms</td>
<td>50%</td>
<td>26%</td>
<td>8%</td>
<td>77%</td>
</tr>
</tbody>
</table>
A farm is defined as economically viable if it can (a) remunerate family labour at the average agricultural wage, and (b) provide a 5 per cent return on non-land assets (Frawley and Commins, 1996).

- Sustainable – household off-farm income source.
- Vulnerable – no household off-farm income.

- Small Farms - 16% viable compared to 25% of Larger Farms.
- Approx. 1/3 of all farms are sustainable with 50% vulnerable.
- Across systems Sheep farms the largest vulnerable group (58%).
Summary – Economic Sustainability

- The average Small Farm is 14 hectares in size.
- Average FFI on Small Farms was just €2,917 in 2015.
- Three quarters of Small Farms earned a Family Farm Income of less than €5,000 in 2015.
- On a per hectare basis gross output on Small Farms was on average €800, 30% less than the average for Larger Farms.
- On Small Farms total costs consume 74% of output compared to 68% on Larger Farms. This is mostly driven by overhead costs, which are high on Small Farms relative to the output level.
Summary – Economic Sustainability

- Depending on the Farm System, the share of direct payments range between 173% and 219% of income on Small Farms.

- In 2015 88% of small farms were in receipt of an off-farm income source, either an off-farm job/pension or social welfare payment.

- The proportion of Small Farms classified as vulnerable is extremely high at 50%, i.e. half of all Small Farms are not economically viable businesses and neither the farmer nor the spouse works off the farm.

- Sheep farms are the largest vulnerable group amongst small farms (58%).

- Only 11% of Cattle Rearing Farms were viable, the figure on Cattle Other Farms was 20%.
Demographics

- Older age profile on smaller farms.
- Larger proportion of single person households.

### Demographic Data – Cattle and Sheep Farms 2015

<table>
<thead>
<tr>
<th></th>
<th>Larger Farms</th>
<th>Small Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer Age</td>
<td>55</td>
<td>59</td>
</tr>
<tr>
<td>Married (%)</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>Single (%)</td>
<td>23</td>
<td>28</td>
</tr>
<tr>
<td>Widowed (%)</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Separated (%)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Household Size</td>
<td>2.7</td>
<td>2.4</td>
</tr>
<tr>
<td>Household with members aged &lt;24 years (%)</td>
<td>35</td>
<td>12</td>
</tr>
<tr>
<td>Household with members aged &lt;24-44 years (%)</td>
<td>28</td>
<td>10</td>
</tr>
<tr>
<td>Single Person Household (%)</td>
<td>18</td>
<td>28</td>
</tr>
<tr>
<td>Farmer aged 65 or over (%)</td>
<td>25</td>
<td>32</td>
</tr>
</tbody>
</table>
The sustainability of Small Farms in Ireland
Sustainability

Economic

Environmental

Social

Innovation
Social Sustainability

- Demographic Profile
- Quality of Life in Rural Areas
Risk of Isolation – frequency of contact

Less than 60 years

>60 years

Daily Basis  Two to Three times per weekly  Once per week  Less often
Sense of Security

- **Greatly Improved**
  - Less than 60 years: 0%
  - Greater than 60 years: 0%

- **Improved**
  - Less than 60 years: 0%
  - Greater than 60 years: 0%

- **No Change**
  - Less than 60 years: 20%
  - Greater than 60 years: 15%

- **Deteriorated**
  - Less than 60 years: 60%
  - Greater than 60 years: 55%

- **Deteriorated Considerably**
  - Less than 60 years: 5%
  - Greater than 60 years: 10%

Legend:
- Blue: Less than 60 years
- Orange: Greater than 60 years
Difficulty in Accessing Services

- Post Office
- Garda Station
- Bank
- Social Amenity
- Public Transport
- Medical Services

% of farms

- Less than 60 years
- >60 years
## Change in Access over last 5 years

<table>
<thead>
<tr>
<th>amenities in the last 5 years</th>
<th>Greatly Improved</th>
<th>Improved</th>
<th>No Change</th>
<th>Deteriorated</th>
<th>Deteriorated considerably</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Office</td>
<td>0</td>
<td>0</td>
<td>84</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Garda Station</td>
<td>0</td>
<td>1</td>
<td>56</td>
<td>37</td>
<td>3</td>
</tr>
<tr>
<td>Bank</td>
<td>0</td>
<td>0</td>
<td>66</td>
<td>34</td>
<td>2</td>
</tr>
<tr>
<td>Social Amenity (e.g. clubhouse, pub)</td>
<td>1</td>
<td>1</td>
<td>96</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Public Transport</td>
<td>0</td>
<td>7</td>
<td>80</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Medical Services</td>
<td>0</td>
<td>2</td>
<td>62</td>
<td>36</td>
<td>1</td>
</tr>
</tbody>
</table>
Social Sustainability

- Older farmers (40%)
  - Increased risk of isolation
  - Difficulty accessing services
  - Deterioration in sense of security
Sustainability

Economic

Environmental

Social

Innovation
Environmental

- Climate Change
  - Greenhouse gas emissions

- Water quality
  - Nitrogen Balances
Water Quality

The bar chart illustrates the kg surplus N per kg live weight for different categories of livestock: Cattle Rearing, Cattle Other, and Sheep. The chart compares larger farms (green bars) and small farms (light green bars).

- Cattle Rearing: Larger farms have a higher surplus N than small farms.
- Cattle Other: Larger farms have a significantly higher surplus N compared to small farms.
- Sheep: Larger farms have an extremely high surplus N compared to small farms.
Climate Change

The graph shows the kg CO₂e per kg liveweight for different types of livestock in larger farms and small farms. The categories are:

- Cattle Rearing
- Cattle Other
- Sheep

The bars indicate the following:

- Larger farms:
  - Cattle Rearing: Approximately 9 kg CO₂e per kg liveweight
  - Cattle Other: Approximately 14 kg CO₂e per kg liveweight
  - Sheep: Approximately 8 kg CO₂e per kg liveweight

- Small farms:
  - Cattle Rearing: Approximately 9 kg CO₂e per kg liveweight
  - Cattle Other: Approximately 14 kg CO₂e per kg liveweight
  - Sheep: Approximately 8 kg CO₂e per kg liveweight

The graph highlights that both larger farms and small farms have similar kg CO₂e per kg liveweight for cattle rearing and cattle other, with sheep having a slightly lower kg CO₂e per kg liveweight in both larger and small farms compared to cattle.
Why Support Small Farms?
Why support Small Farms?

- >€220 million of Pillar I payments
- Why?
- Employment & Rural Population
- Non-farm Rural Economy
- Provider of Public Goods
Typical Public Goods

1. Landscape management
2. Biodiversity
3. Climate Action
4. Animal Welfare
5. Cultural and heritage protection
6. Food Security

“Collectively ecosystem services”
Supply of public goods

- Supply of public goods by farmers is falling
  - Decreasing and volatile prices
  - Need for intensification

- Related to types of farming and practice
  - Intensity and land management
  - Farm type and size (pasture based)
Landscape Management
Landscape Management

- Maintaining original landscape character
- Land abandonment
  - Spread of scrub and wildfires
  - Soil degradation
- Appropriate landscape management can
  - Protect soil fertility
  - Increase resilience to flooding
Biodiversity
Biodiversity

- Traditional farming systems protect indigenous flora and fauna
  - Grazing & hedgerows can protect habitats
  - Specific-breed and habitat links

- Intensification and abandonment contribute to loss of biodiversity
  - Farmland bird numbers down 48% since 1980 – Bird monitoring scheme
300,000 km of hedgerows in Ireland – noticenature.ie
Small Farms better for Public Goods?

- Mixed Evidence
- Production system as much as the scale
What Future for Small Farms?

1. Consumed by larger farms
   • (only 15% would lease)

2. Part-time
   • (only 7% seeking employment)

3. Diversification
   • (only 4% interest in forestry)

4. Forced Continuation
Continued Reliance on Direct Payments

- What policy support?
  - More support for public goods
  - Outcome driven
  - Land linked
  - Small farms = small payments