On-farm and collective ecological innovations

Highlights from northern French case-studies
Microfarms in France: a growing neo-peasant movement

Scientific research
A pilot study on the Bec Hellouin farm, France
A PhD work on 20 microfarms in Northern France (qualitative and quantitative data)

- **economic viability**

Morel et al. (2016); Morel and Léger (2016)

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**Commercial market gardens**
- Small scale (<1,5 ha per farmer)
- Low motorisation and investment
- Low input practices
- Agroforestry

**No or limited tillage**
- High crop density
- Intercropping
- Wildlife habitats
- High crop diversity

**Organic produce**
- Short supply chains
- Strong community anchorage
- Local dynamics

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## Low input practices, productivity and economic viability of microfarms

<table>
<thead>
<tr>
<th>Motorisation (energy)</th>
<th>No</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil tillage (soil erosion)</td>
<td>No or superficial</td>
<td>No or superficial</td>
<td>Systematic and deep</td>
</tr>
<tr>
<td>Commercial inputs</td>
<td>Little</td>
<td>Little</td>
<td>High</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>+++</td>
<td>+++</td>
<td>++</td>
</tr>
</tbody>
</table>

### Qualitative results based on farms' interviews from 20 microfarms (further investigation required)

<table>
<thead>
<tr>
<th></th>
<th>Manual microagriculture</th>
<th>Biointensive market gardening</th>
<th>Diversified market gardening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family-size vegetable boxes per ha</td>
<td>97±19</td>
<td>67±15</td>
<td>26±5</td>
</tr>
<tr>
<td>Chances of economic viability (annual labour&lt;2500h and monthly income&gt;1400€) for running farms</td>
<td>47%</td>
<td>78%</td>
<td>28%</td>
</tr>
<tr>
<td>Chances of economic viability (&lt;2500h and &gt;1400€ per month) for setting up farms**</td>
<td>6%</td>
<td>9%</td>
<td>0%</td>
</tr>
<tr>
<td>Cultivated acreage of viable scenarios (m² per worker) for 2500h*</td>
<td>3136±1445</td>
<td>5876±3035</td>
<td>12766±5525</td>
</tr>
</tbody>
</table>

*for "running farms" once bank loans for initial investment have been paid** while bank loans for initial investment are being paid

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Innovative microfarms with ecological practices

Classic control scenario
Community anchorage: toward efficient farms ecosystems?
(A case study in Brittany)

- Conventional grassland based dairy farming (80 ha)
  - Cattle manure
  - Building
  - Land
  - Water drilling
- Organic microfarm (1.5 ha)
  - Apple juice, honey (hives), firewood from hedges
  - Wasted vegetables
- Brewery (renovated barn)
  - Chestnuts + cows?
  - Spent grain
  - Building
  - Milk
  - Hop
- Future cheesemaker?

- Farmers shop
  - Collective delivery to limit energy
- Local village
  - Cultural and pedagogic events
  - Village life
  - People moved in

Other resources:
- Tractor
- Herbs
- Hop
- Herbs
- Chestnuts + cows?
- Spent grain
- Building
- Milk
- Hop
- Future cheesemaker?
Small farms, ecological innovations and rural development

Innovative and resource efficient practices based on ecosystems understanding is strongly site-dependent and complex

- Require local systemic on-farm experimentation, exchange of farmer’s knowledge is key
- Collective and participatory research (Duru et al. 2015a)

Resource efficiency and innovations should be assessed and supported at a wider scale than the farm scale

- Territorial ecology
- Efficiency at the farm level can be supported by collective innovations (Duru et al. 2015b)

Implications for the CAP:
Most of these innovative small-scale farmers receive less money from the CAP than bigger farmers and their farms are often more economically viable because they want to do better with less!

- 1st pillar: subsidies per farm rather than per ha?

- 2nd pillar: can improve indirectly farms’ and farms ecosystems’ efficiency supporting collective innovations and collaboration between farmers rather than competition for more land to get more subsidies. Collective innovations strengthen both local economy, social links and have a global positive impact on rural development.

- Allowing flexible research and innovation projects where it is not asked to know the results before applying for funds!

In Lorraine (FR) collective research on manual tools, green manures, low-input market gardening funded by from Ministry of Agriculture.
- created strong local dynamic
- 8 organic market gardeners in 2000; around 120 now!

http://forum.latelierpaysan.org
Thank you for your attention and looking forward to exchanging

Literature cited to go further


