Adaptation of vegetable farmers to climate change in the Parisian region: a participatory approach using climate data

Climate change is challenging vegetable production

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Adaptation of vegetable farmers to climate change in the Parisian region: a participatory approach using climate data

Climate change is challenging vegetable production

But complex and many factors; need to integrate farmers’ perspective at the farming system level to support adaptation

A multi-step approach involving stakeholders

What climate factors are relevant to support adaptation?

3 workshops with local farmers (23)

2 workshops with experts and agricultural institutions (7)

What climate data needed to support adaptation?

Synthetic climate data for vegetable farmers

What future priorities for adaptation?

Online survey (on-going)

Specific future program on water

Climate data needed by vegetable farmers to adapt strategies

- Multifactorial (T, Rain, wind…)
- Seasonal scale (winter, spring, summer, autumn)
- Risk (1 year out of 2, 5)
- Different time horizons (near and far future)

Debates raised by farmers

Toward an increase use of protected tunnels and technology (cost, energy, plastic, inequality to access) or low-cost agroecological practices?

Pressure on vegetable farmers to be more efficient in water use but political priority should be given to horticulture (sharing resources)

If change in crops and crop planning, consumers have to change eating habits

Tab. 1 Example of some of climate factors affecting the main crops (in total 11 climate factors, around 20 indicators)

<table>
<thead>
<tr>
<th>Climate factor</th>
<th>Main vulnerable crops</th>
<th>Climate relevant indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher temperatures</td>
<td>Overall summer tunnel crops such as tomatoes, cucumbers, aubergines.</td>
<td>* Maximum daily temperature values from June to September; Number of days per month with temperatures &gt; 30°C</td>
</tr>
<tr>
<td>Late frost</td>
<td>All frosty vegetables at the seedling stage (5, 7 leaves), especially when trying to advance them.</td>
<td>* Days with minimal temperatures &lt; -2°C or 0°C from March to May.</td>
</tr>
</tbody>
</table>

Presenting climate simulations (8*8 km; CLMcom model; scenario 4.5)

Fig 1 Zoom on the synthetic table with climate data for farmers. In total 17 indicators.

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