The « 4 pour 1000 at a country scale: exemple of France.

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GHG emissions and absorption in agriculture in France - Current figures

• French agriculture
  436,000 farms, average size 65 ha
  1st agricultural production in Europe, represents 70.3 Mds€/yr
  main productions: crops (wheat, maize...), wine, fruits, potatoes, milk, meat...
  agricultural land represents 54% of French area (forests: 31%)
  Landscape, gastronomy and agrotourism

• Emissions of Agriculture in France: 20% of french total emissions (85 Mt CO2 eq out of a total of 422 Mt CO2 eq)
  47% of CH4 (enteric fermentation, waste management)
  44% of N2O (fertilizers, manure, crops residus)
  10% of CO2 (without energy consumption)

• LULUCF (Soils and Forestry) are an important carbon sink (-36 Mt CO2 eq)
Implementation of 4 per 1000 in France:
The Agroecology project

• A strong orientation for the French agricultural sector since 2012

• Fully included in the law [so called “Loi d’Avenir pour l'agriculture, l'alimentation et la forêt” 2014], reaffirmed recently in a new law « EGAlim » [october 2018]

• An ambitious national project with a multi-stakeholder governance system

• …mainstreaming agro-ecology in all public policies and institutions: farmers education system, advisory services, research institutions, technical institutes…
The Agroecology project

A detailed action plan drawn up in with 17 work areas and integrating 10 specific action plans elaborated with all stakeholders:

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<th>Ecoantibio</th>
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<td>Ecophyto</td>
<td>Agroforestry</td>
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<td>Develop biogas</td>
<td>Protecting pollinators</td>
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<td>Seed diversity</td>
<td>Animal welfare</td>
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<td>Protein crops</td>
<td>Training program for farmers</td>
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Collective approach: Economic and environmental interest groups (GIEE): Promote voluntary groups of farmers willing to develop their environmental performance.

General objective: a majority of French farmers adopting agroecology practices by 2025.
Current common agricultural policy (CAP):

• Agriculture-Environment-Climate Measures 2014-2020 budget doubled compared to 2007-2013

• Support for Organic program (especially conversion)

• Good agricultural practices needed to receive direct payment (cross compliance): grass strips, protect permanent pastures and green infrastructures, winter soil cover, no burning of residues...
Encouraging results:

- We estimate that in 2019 10% of farmers are implementing agro-ecological practices,
- More than 527 GIEEs granted recognition since 2015 (more than 8000 farmers) and 30% with a specific focus on soil,
- Protein crops production is developing with an objective of 500,000 ha of protein crop area in 2022,
- Organic farming is developing fast. Objective: 15% of the agricultural area organic in 2022 (3.8% of agricultural area in 2013 and 6.5% in 2017),
- Major changes in farmers education system and research
- Impact on soils difficult to assess for the moment
Lessons learnt:

• Make it voluntary
• Communicate widely and build on pioneer farmers’ experience
• Ensure continuous political support
• Address transition costs
• Make sure that market can reward agroecological products
• Associate farmers organization and cooperatives/private sector (often providing inputs and advise)
Other initiatives:

• Farmers today are widely engaged.

• As an example, initiatives are being taken in livestock farming with the aim of enhancing carbon capture in grazing land: “Beef Carbon” and “Low-Carbon Dairy Farming” initiatives, more than 10,000 farms across France are committed to reducing their carbon footprint based on quantified targets that cover the next ten years.

• France’s government has developed a scheme for the certification of greenhouse gas (GHG) emissions and carbon storage for voluntary projects: the “low-carbon” label. The first agricultural methodology, “Carbon Agri”, has recently been validated.
More specifically on the potential for carbon sequestration in Ag soils

⇒ INRA 2019 Study:
- to better know the technical potential of carbon sequestration in the French soils
- to precise the technical and economic feasibility of actions through our territory.
Main outcomes of the study:

=> The 4 ‰ is possible to achieve in French soils:

- with the implementation of all practices identified everywhere it is possible: de +1,9‰ per year for agricultural lands and forests, +3,3‰ for agricultural lands only and +5,2‰ for arable crops.

- Everywhere the carbone stocks are high (forests and permanent pastures): hard to increase the rate. So the main issue is to protect them and preserve their annual rate.
Main outcomes of the study:

=> Scientific identification of the practices that are most suitable for increase of carbon stocks in our soils:

• More intermediate crops
• Ground covers all along the year,
• Increase of hedges,
• Diversification of crops
• Agroforestry
• Actions in favor of maintaining permanent crops, wetlands and forests and stopping artificialization of soils.
These outcomes inform our reflexions for the next Common Agriculture Policy (CAP) and its implementation.

A major issue is the strengthening of the CAP contribution to answer to climate change challenges while accompanying farmers to put practices that are favorable to soil carbon sequestration in soils.
Thank you!