

# Soil organic carbon good management practices: innovation and scaling up

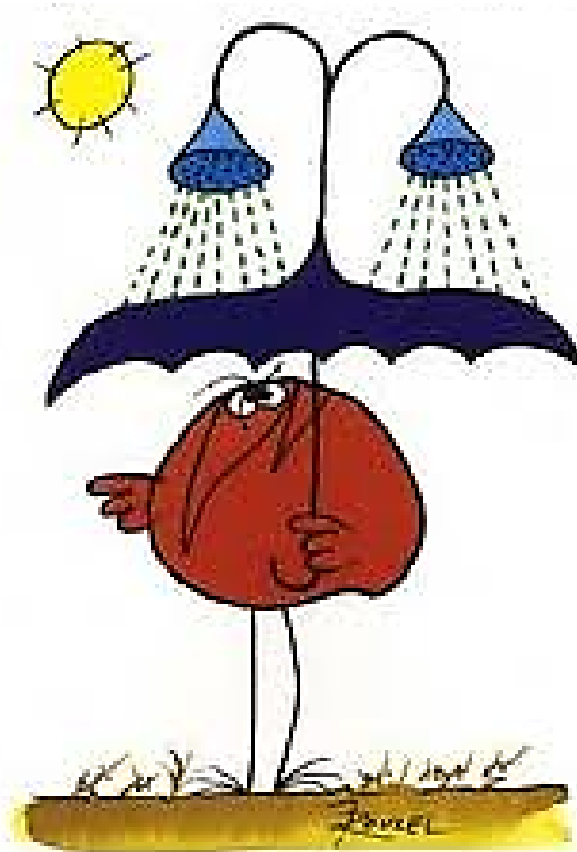
Dr Julien Demenois & Dr Guy Faure



# Is it an invention or an innovation ?

## Invention

a **new** method,  
technique, mean  
by which it is  
possible to solve  
a given practical  
problem



Umbrella for dry season by the Shadoks®

## Innovation

an **implemented**  
idea at a  
significant **scale**

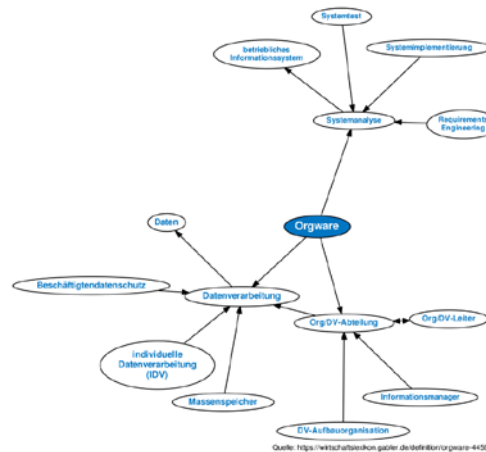


# Multi-dimensions of innovation

## Hardware



## Orgware



## Software



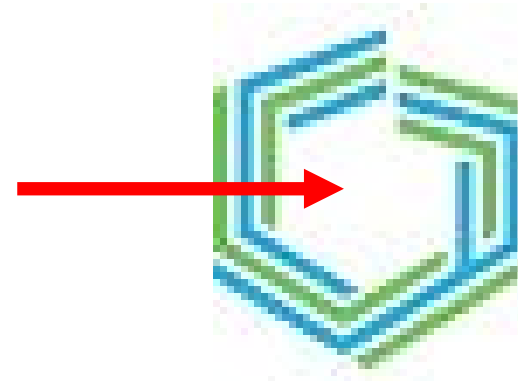


# Diversity of innovation

incremental



exogenous



radical



endogenous



# Specificities of innovation in agriculture

nature



space



culture





# The diffusion of innovation

Experiment of  
new practices  
and validation

Large scale  
development

**Development**

**Implementation**

Plan and space to  
experimentation by  
pioneers

New practices  
adopted by  
others

**Programmation**

**Spreading**

Network of  
pionneers

**Inspiration**

**Initial idea**

New idea to  
solve a problem  
or catch  
opportunity

Change  
internalized by  
organizations  
and institutions

**Institutionalization**



# What about soil carbon sequestration innovation ?

## Feedbacks from the « Scale out the 4 ‰ Initiative » project



## Four case studies :

- [illegible]

## Four case studies :

- 
- Hand-drawn diagram of a coastal landscape with various geographical features and labels in French. The diagram shows a coastline with a bay (Baie) and a river (Ruisseau). Key locations include 'Main d'œuvre' (workers), 'Fannes', 'Alouette', 'Nécess', 'Pastique', 'Pailles', 'Feux', 'T2P', 'Alouette', 'Nécess', 'Pastique', 'Grande-Basse', 'Blaise', 'Case', 'bois', 'CO2', 'H2O', 'Nécess', 'Fannes', 'Alouette', 'Nécess', 'Pastique', 'Grande-Basse', 'Baie', 'Ruisseau', 'Fannes', 'Alouette', 'Nécess', 'Pastique', 'Grande-Basse', 'Baie', 'Ruisseau'.





# Results - shared constraints

- ▶ Lack of knowledge
- ▶ Lack of training
- ▶ Social barrier
- ▶ Economic and risk aversion



# Targeted impacts and actions

- ▶ More informed and trained stakeholders
- ▶ From isolated farmers to a network of pioneers who overcome social and economic barriers
- ▶ Invest on training and capacity building
- ▶ Build networks and demonstrators
- ▶ Include stakeholders at territorial scale and value chain

Enabling environment



# Conclusion

- Take into account diversity and complexity of innovation processes
- Identify and accompany the emergence of innovations
- Ensure coordination at different levels, from local to national

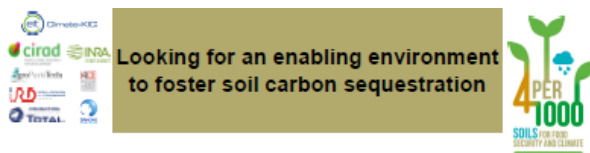




# Thank you for your attention

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## Project background

The adoption rate of new practices contributing to the 4 per 1000 objectives and their duration of implementation are critical for its impacts at global scale. We organized participatory multi-stakeholders workshops to contribute to a better understanding of what could be an enabling environment in the context of the 4 per 1000 Initiative. To address diversity of agro-environmental and socio-economic conditions, we gathered stakeholders from contrasted sites in Europe and Africa.

### Objectives

1. Identifying constraints to the adoption of 4 per 1000 innovations
2. Identifying actions to alleviate these constraints

### Methodology

Participation of 48 farmers, agricultural organizations and agricultural schools, agro-industries, administrations, NGOs, donors and research organizations

#### Multi-stakeholders workshop in France

Four case studies :

1. Polyculture - cattle breeding
2. Cattle breeding
3. Field crops (wheat, barley, rape seed)
4. Vineyard

#### Multi-stakeholders workshop in Senegal

Four case studies :

1. Peri-urban agriculture
2. Irrigated agriculture
3. Agroforestry
4. Rainfed agriculture - livestock



Working group - Agroforestry in Senegal - 4th work group

### Contact

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Download the poster here



### Results



### Outcomes

- Most barriers relate to the enabling environment and not to technical issues
- Holistic approach, based on Agricultural Innovation System, necessary to foster soil carbon sequestration
- Development of integrated landscape approach identified as a way forward for both Europe and Africa

