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# Farmers' compromises to develop autonomy through agroecological practices: revealing the lock-ins of the agrifood systems

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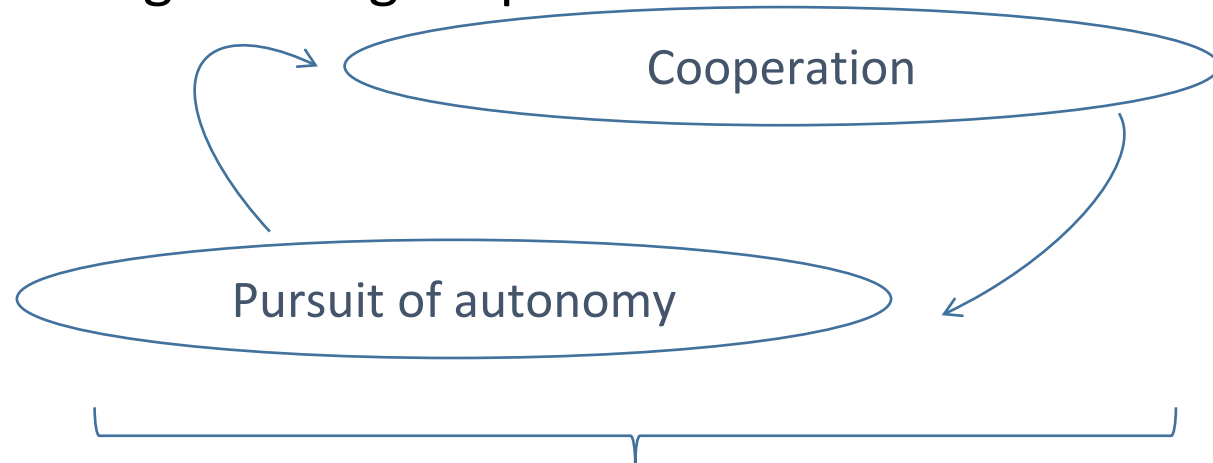
France

# Introduction



## PhD Sociological Research Work

- Aim
  - To understand the interaction between:
    - Farmers' pursuit of autonomy
    - Cooperation through machinery co-ops,
    - Development of agroecological practices



Towards agroecological practices?

## Plan

- Context: brief insights
- Theoretical inspiration, methodology and case studies
- Farmers' strategies for developing autonomy
- Modes of cooperation between peers
- Discussion: Why do these farmers accept becoming more interdependent with their peers to increase their autonomy?



# Context: brief insights



## Autonomy as a key principle of agroecology

- In the literature *Glissman, 2007; Coolsaet, 2016; Koochafkan, Altieri, & Holt Giménez, 2012*
- In the narratives of the agroecological social movements  
*La Via Campesina, 2015*
- In public policies:
  - In France: legal definition of the agroecology including the objective of autonomy

### LE PROJET POLITIQUE

Conférence nationale  
Produisons Autrement  
18 décembre 2012

“Faire  
de l’agro-écologie  
une force  
pour la France”

⇒ *But few studies about how farmers compromise the pursuit of autonomy with other aims and concrete everyday realities!*



# Context: brief insights

## A research based on machinery cooperatives experiences

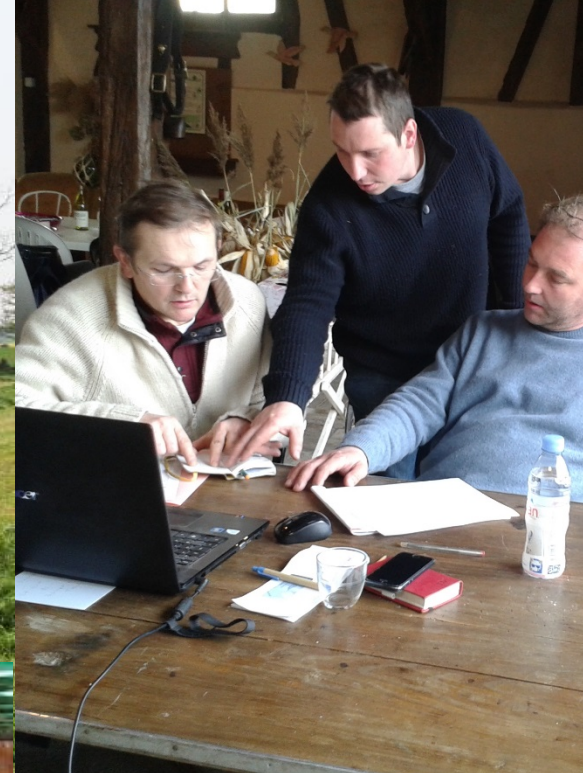




# A research based on machinery cooperatives experiences

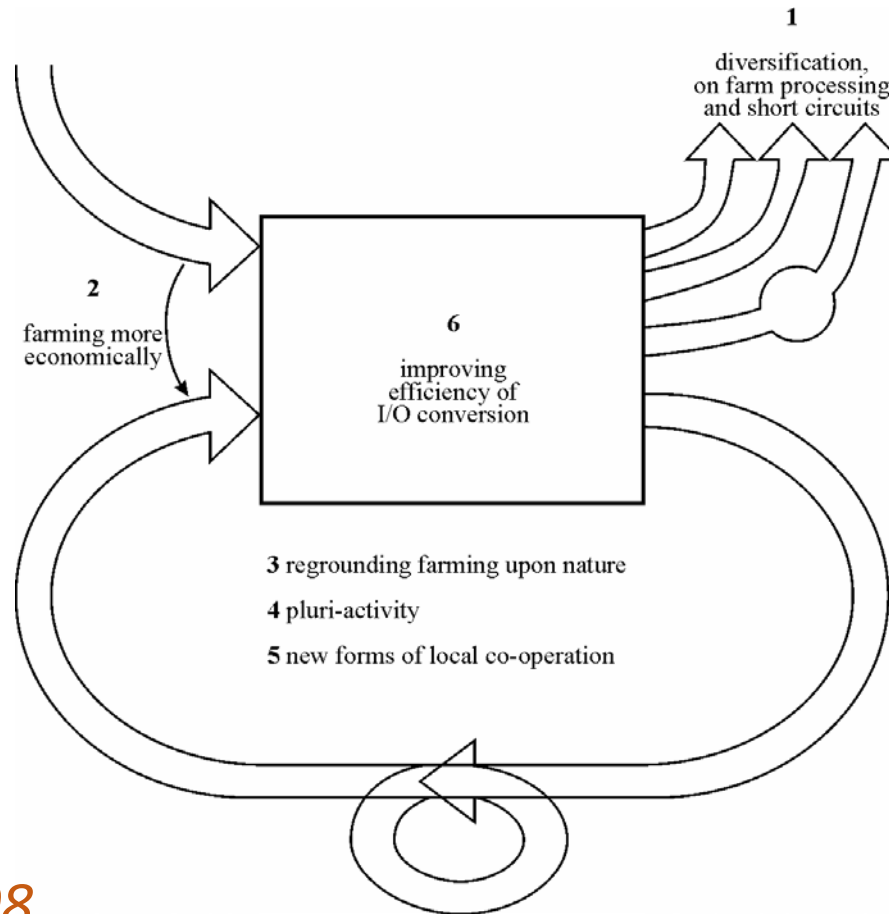
- Local co-op with 25 members on average
- To share machinery, labour, buildings and paid workers
- Farmers studied in six machinery co-ops:
  - With common machinery to develop practises using the ecological functionalities: legumes introduction, no-tillage.

# Theoretical inspiration, methodology and case studies



## Theoretical Inspiration

- 6 mechanisms to gain autonomy: to face harsh context



1- Diversification of the products and of the modes of marketing

2- Decreasing external inputs

3- Enhancing ecological functionalities

4- Pluriactivity

5- Cooperation and collective action

6- Improving technical efficiency and skills

*Van der Ploeg, 2008*



## Methodology

- In-depth research into 6 machinery co-ops
  - With on-farm legume introduction or no-tillage practices : *increasing common investment in needed machinery for these practices revealed by national data*
- 34 semi-structured individual interviews, focusing on:
  - Conceptions of autonomy
  - On-farm implemented changes
  - Modes of cooperation with peers

## Case Studies

### Brittany : 4 farms

- No-tillage, cover crops with legumes
- Co-op: machinery for no-tillage

### Touraine : 10 livestock farms

- Legume grass, cover crops with legumes
- Co-op: hay-making machinery adapted for legume grass

### P. Basque : 3 sheep farms

- Legume grass
- Co-op: design of a collective barn hay-drying

### Aube : 5 farms

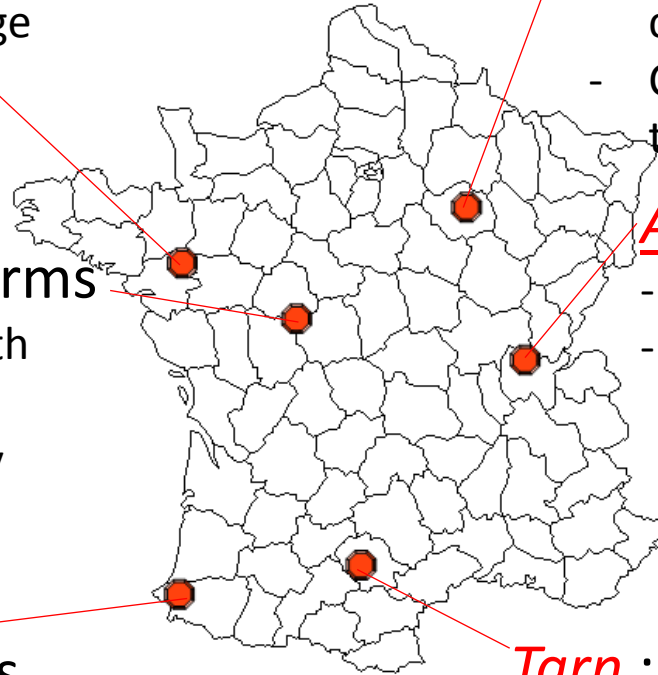
- No-tillage, direct seeding, cover crops with legumes
- Co-op: machinery for no-tillage and direct seeding

### Ain : 6 farms

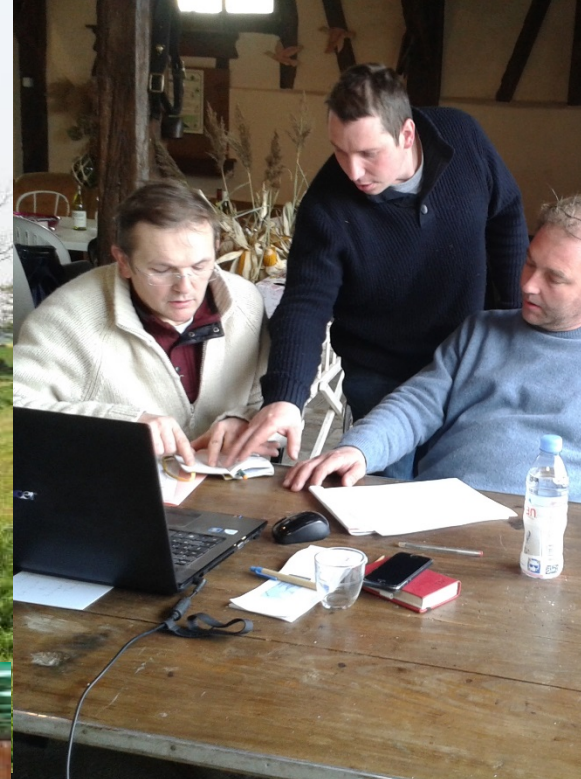
- Legume grass
- Co-op: collective barn hay-drying

### Tarn : 6 farms

- Direct seeding, cover crops based on legumes
- Co-op: machinery for direct seeding



# Farmers' strategies for developing autonomy

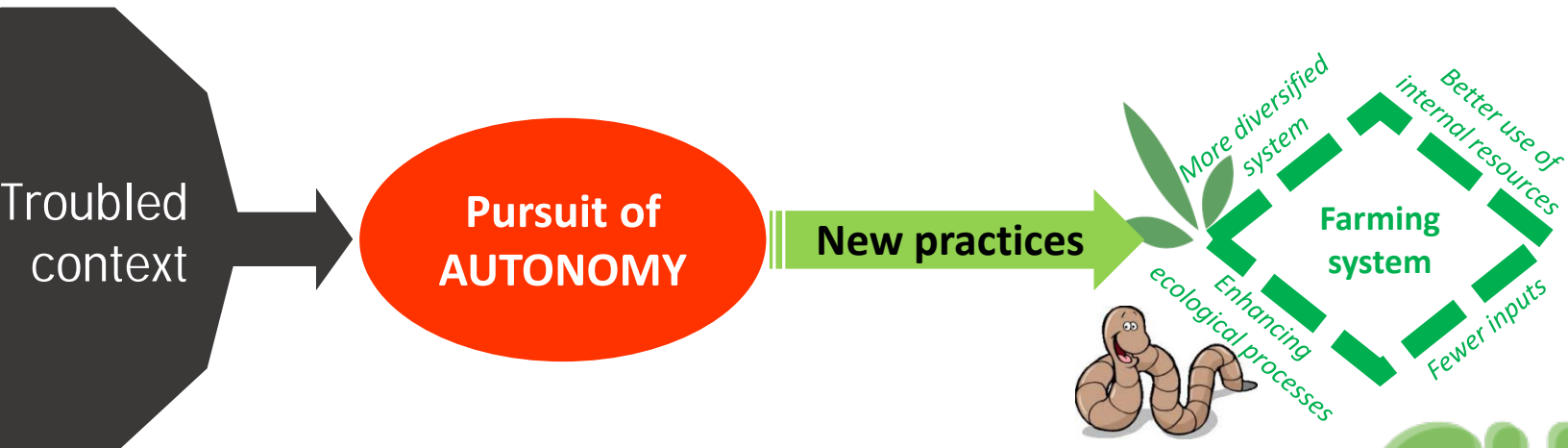




# Farmers' strategies for developing autonomy

## Farmers' Practices

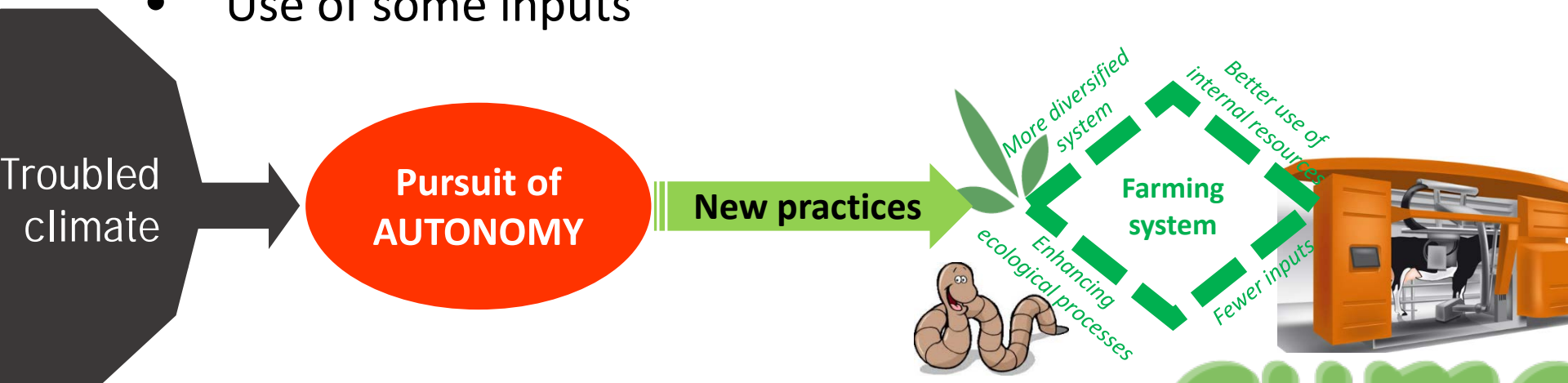
- Troubled socio-economic and ecological context
  - ↳ New practises implemented
- Towards new farming systems
  - More diversified
  - Fewer inputs
  - Better use of the internal resources
  - Enhancing ecological functionalities



# Farmers' strategies for developing autonomy

## Farmers' Practices

- Troubled socio-economic and ecological context
- Towards new farming systems
- Conventional practices maintained
  - High yields
  - Robotics
  - Use of some inputs



## Farmers' Narratives

- Few words about environmental issues
- Pursuit of Autonomy: mainly in relation to input providers
  - To solve economic concerns: Prices Volatility
  - Beyond the economic:
    - Inputs considered as ineffective
    - Asymmetrical interaction with market operators
      - *“We had two peaks of milk prices. That's strange, the prices of the inputs have often followed! Then, the better we had in the products markets, we have often spent it in the costs...”*
      - *“What we try to do for a few years, it is precisely to try to manage to get through, and to avoid suffering and re-suffering, that's all...”*



## Renewed processes of cooperation with peers

- New pooling processes within the machinery co-ops:
  - Common investment in expensive machinery
  - Collective labour organization during workload peaks
- New transfers of resources
  - Seeds, fodder, organic matter
    - Grazing of winter cover-crops by sheep of a neighbouring farm
    - Knowledge and resource-sharing facing the lack of appropriate resources from other operators

# Farmers' strategies for developing autonomy

## Renewed processes of cooperation with peers

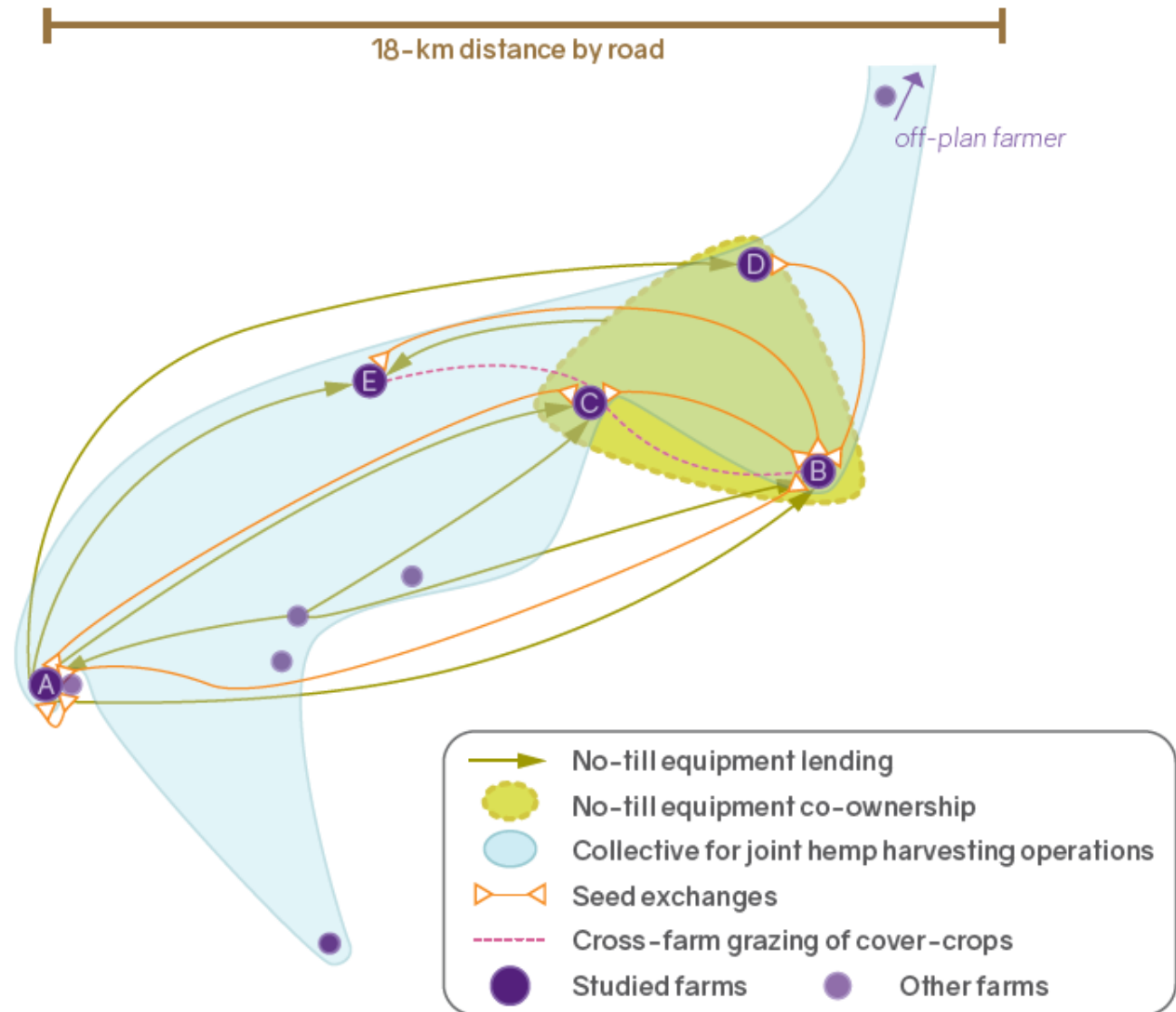


FIGURE 5 Map of the sharing arrangements that specifically facilitate conservation agriculture in the Aube co-op

# Farmers' strategies for developing autonomy

## Renewed processes of cooperation with peers

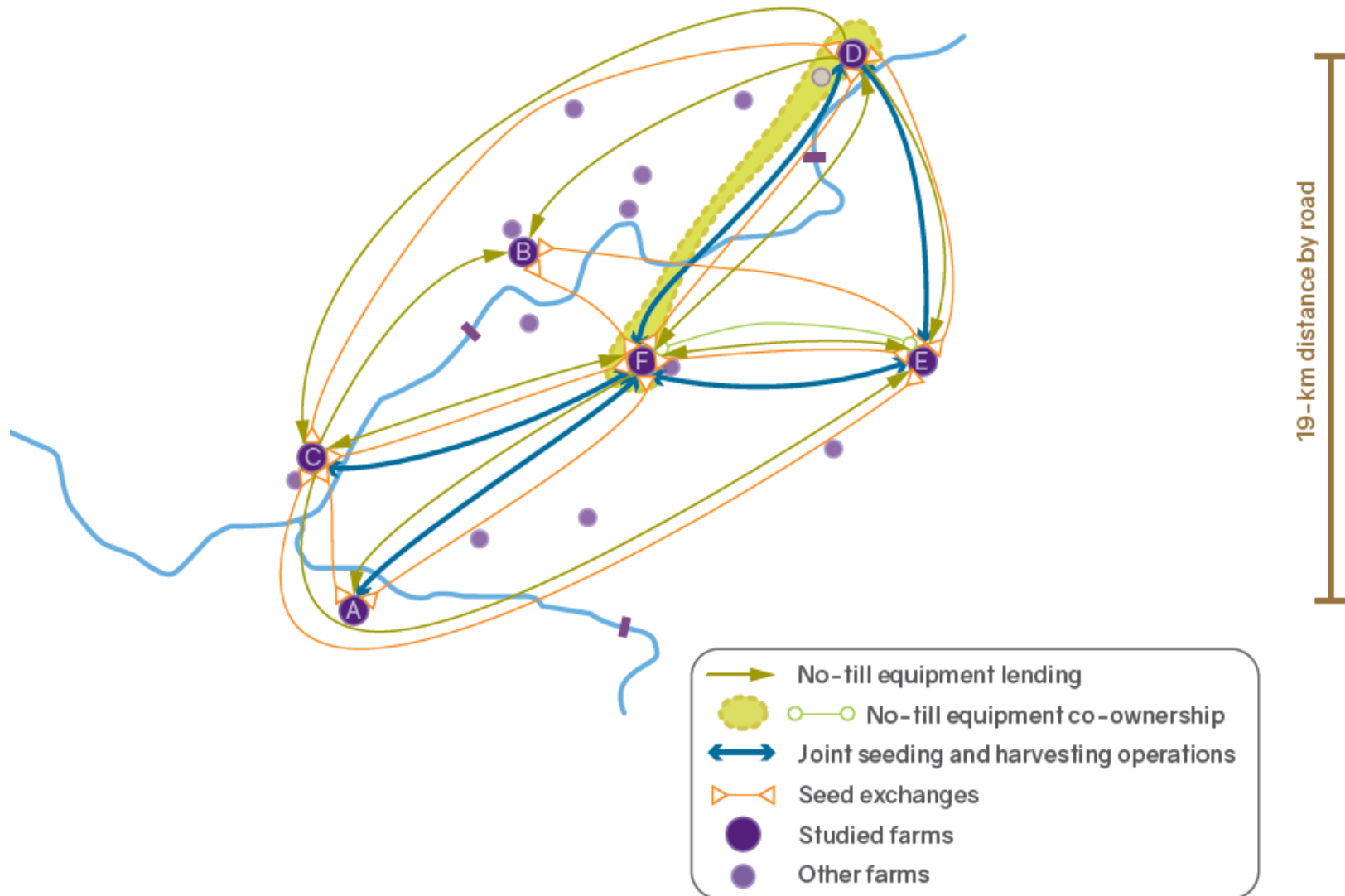


FIGURE 3 Map of sharing arrangements that specifically facilitate conservation agriculture in the Tarn co-op

## Renewed processes of cooperation with peers

- New pooling processes within the machinery co-ops:
- New transfers of resources
- Joint learning and study groups
  - Training sessions, study trips
  - Production of common appropriate knowledge
  - Shared through technical dialogs within the co-op



## Detachment through new attachment

- Induced attachments (or burdens)

No-Tillage



Herbicides



- Frost-sensitive species of winter cover-crops
- Input Efficiency through reduced dosages
  - Grazing of cover-crops

Legumes



New task: On-farm seed production



Planned Seed-sharing between peers

- Ways to minimize the induced attachments

# Final discussion



## Several functions of the cooperation with peers

- Facing new material needs brought by new practices, diversification, self-provisioning
- Improving access to/use of strategic resources: self-provisioning strategies beyond the farm level
- Optimising the on-farm labour organization:
  - Additional tasks: experimental activities, cover-crops cultivation, ...
  - Labour-sharing arrangements: collective venture to hire workers, time bank,...

## Several functions of the cooperation with peers

- Facing new material needs
- Improving access to/use of strategic resources:
- Optimising the on-farm labour organization:
- Producing common appropriate knowledge: through joint learning and study groups
- Collectively managing the uncertainty context: cooperation as a protective space



# Autonomy of dependencies shift?

## Several functions of the cooperation with peers

- Facing new material needs
- Improving access to/use of strategic resources:
- Optimising the on-farm labour organization:
- Producing common appropriate knowledge:
- Collectively managing the uncertainty context:

⇒ *more balanced and horizontal interactions between peers*

**!!! But inequalities to benefit from the cooperation**

# Conclusion



## Compromises revealing lock-ins

- Knowledge and resource-sharing facing the lack of appropriate resource from other operators
- Remaining dependencies:
  - glyphosate
  - difficulty of designing multi-species pastures

*⇒ Cooperation between peers:  
interesting mean for agroecological transition...*

*... but not sufficient!*





Thank you  
for your attention !

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