Addressing territorial resources to foster agroecological transitions in livestock farming systems

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Flow

- Context: Livestock farming, Agroecology
- Aims: Fostering transition
- Approach: Our framework
- Cases studies
- Some elements of discussion

A wide diversity of Livestock farming…

… for many opportunities and benefits

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But so much Problems…!

Livestock farming are strongly impacted by climate change, economic instability, social expectations and ecological issues

Land use competition

Feed/food challenge

Biodiversity loss

Deforestation and land grabbing

Global warming

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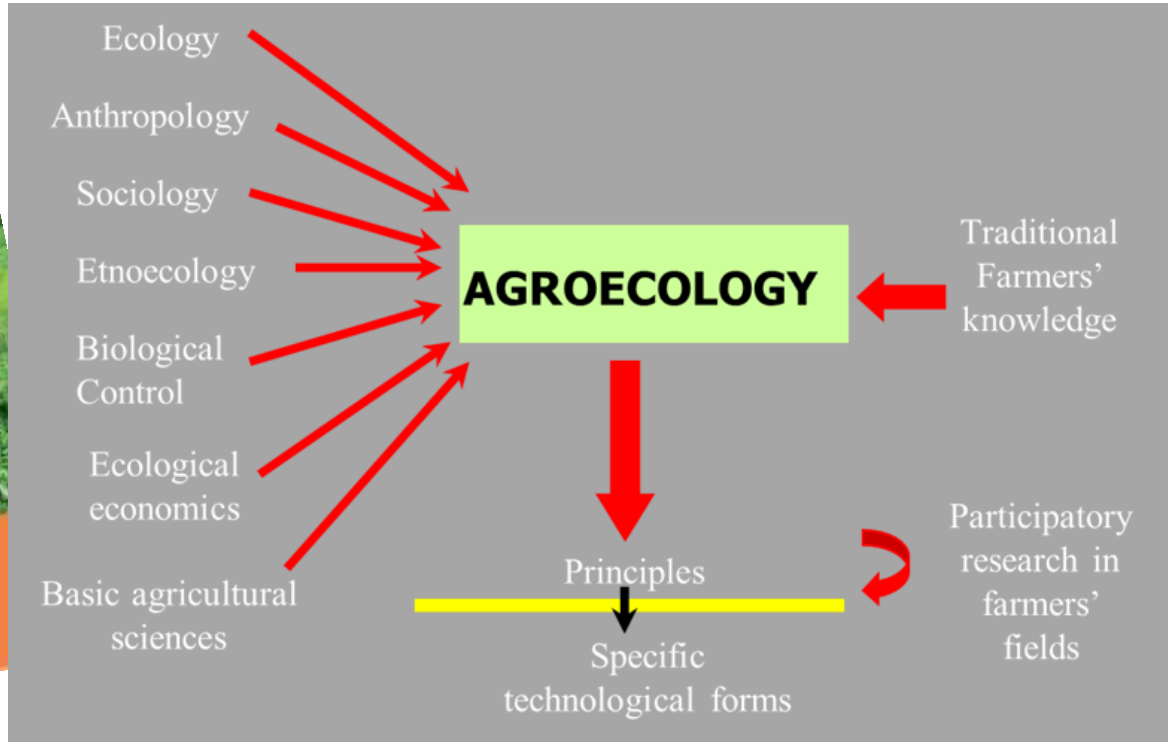
Agroecology: a new relevant way ?

Agroecological principles based on key ecological processes were proposed to (re)design sustainable farming systems (Altieri, 2002; Dumont et al., 2013; Dumont et al., 2014; Bonaudo et al., 2014)



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Highlights about AE

- Agroecological transition is a way to improve sustainability of the LFS (*Dumont et al., 2013; Bonaudo et al., 2014)*
- Agroecology requires to connect practices to the local ecosystems, and make use of different types of resources *(Altieri, 2002).*
- The social component of agroecology is a crucial aspect to understand, analyze and accompany agroecological transitions of farming systems *(Wezel et al., 2009).*
- Farmers organize different pratices as levers for AE transition *(Thénard et al. 2018)*

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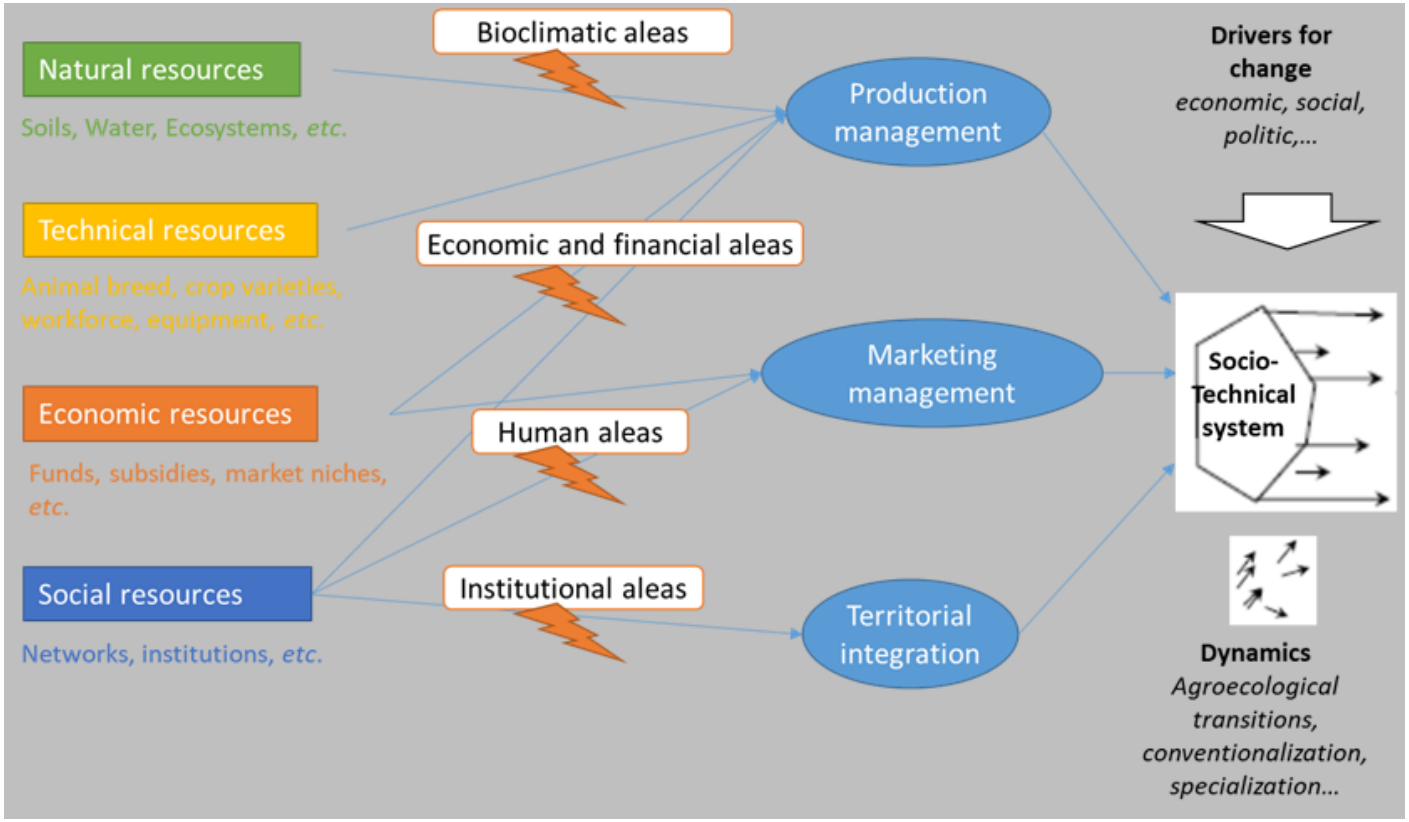
Approach & Aims

- Approach : inspired by literature, but attempts to translate such analysis of sociotechnical systems' transitions into operational elements allowing a systemic analysis of resources for the development of agroecology.

- Aims: Producing a framework for the analysis of case studies of agroecological transitions in crop-livestock systems, based on the identification of the territorial resources and their roles in the transition.

What are Territorial resources?

- Territorial resources are involved in strategies to pilot the agricultural sociotechnical systems



- Other types of resources, beyond natural, technical or cognitive ones, are also necessary.

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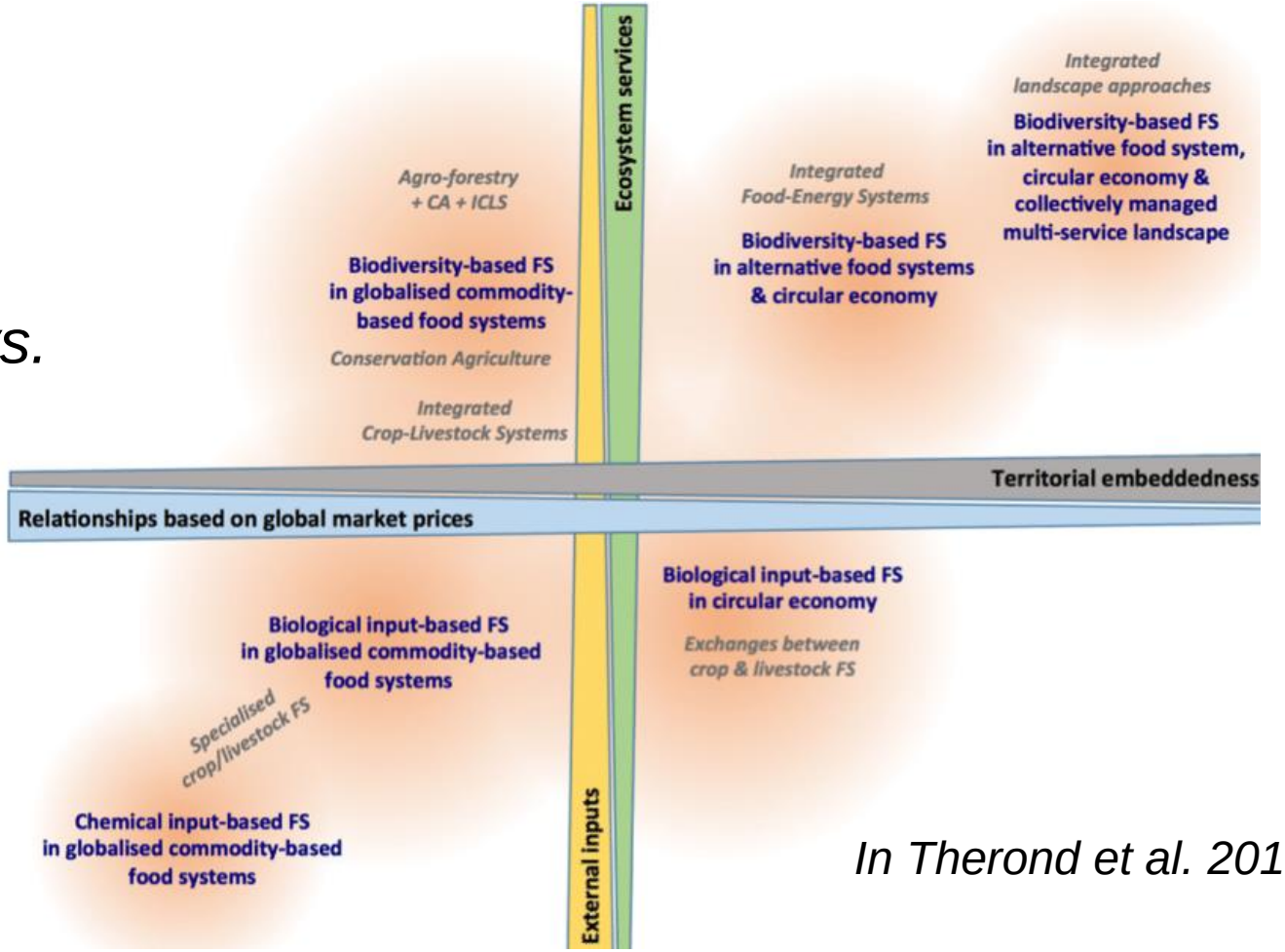
For which Agricultural models?

- Agricultural models define changes and utilisation dynamics for territorial resources

X: Market vs. Territory

Y: Input vs. biodiversity



In Therond et al. 2017

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Linking territorial resources and Agricultural model

- Four criteria to explain mobilization of biodiversity in production process
  - diversity of types of land used in production
  - diversity of animal species that are raised;
  - type of animal breed and mode of selection;
  - contribution of production systems to the management of natural areas or specific ecosystems.
- Four criteria to define territorial embeddedness
  - diversification of activities;
  - product transformation and local commercialization;
  - local purchase of inputs & collective dynamics at local level;
  - governance and shared values.

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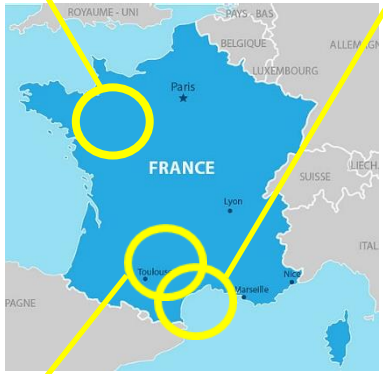
Case studies



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Modelling territorial resources

For each Case-Study

- Defining fot the resources:
  - The position on the biodiversity-based vs. inputs-based axis;
  - The position on the territory embeddedness vs. globalized supply chains axis.

- Representing the specific combinations of resources mobilised by the different farming systems.

Modelling territorial resources

Biodiversity based systems

Local knowledge Shepherds

Farmers' association CIVAM Empreinte

Mixed FS Rangeland-type

Local sheep breed

Forest managers

Causses and garrigues ecosystems

Biodiv. Mgt. schemes

Pastoral recapture plans

Farmers' association Baron des Cevennes

Hay from Crau plain

Proximity from cities

Local markets

Globalized supply chains

Territorial embeddedness

Mixed FS Dairy-type

PDO label for cheese (Pélardon)

Agricuture by-products

Natural

Technical

Economic

Social resources

Livestock supply chains

Inputs based systems

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Modelling territorial resources

Biodiversity based systems

CIVAM

Organic cooperative

Grassland based dairy systems

Citizens' wish on food products

Oceanic climate

Rennes agriculture policy

Bleu Blanc Coeur label

Globalized supply chains

Territorial embeddedness

Holstein selection

Agri-food by-products

GDA, Milk counsel service

Natural

Technical

Economic

Social resources

Global milk market

Maize based dairy systems

Feed production

Inputs based systems

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Which management of territorial resources toward transition?

- In the different case studies, we can explain how farmers could shift the management of territorial resources.
- On one hand farmers can implement transition with determinist innovations (milk counsel service, organic label, pastoral plan, …).
- on the other hand farmers enforce changes toward an open-ended transition (use local resources, feed production, genetics choice,…).

Perspective and next step

To conclude:

- Analysis of territorial resources could explain agroecological transitions
- This framework proposes an analysis of territorial resources combined by farmers for transition.
- Also, with this framework, we suggest developments for supporting agroecological transitions of livestock farming systems in different territories. These transition could be explain as deterministic or open-ended.

For more data and details : *Agroecological transitions, between determinist and open-ended visions. Collective book project eds. D. Magda – C. Lamine.*

Thank you for your attention

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