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## Evaluating innovative scenarios to enhance mixed crop-livestock farms sustainability

Julie Ryschawy, Alexandre Joannon, Annick Gibon

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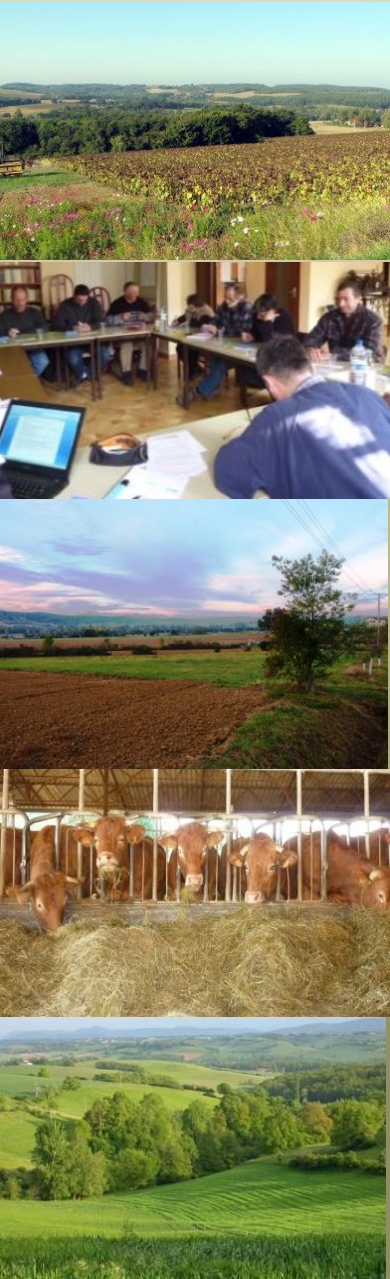
11th European IFSA Symposium  
1-4 April 2014 in Berlin, Germany

**Evaluating innovative scenarios to  
enhance mixed crop-livestock farms  
sustainability.**

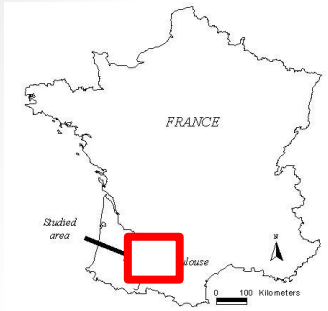
*A partnership methodology based on  
long-term farmers' strategies*

J Ryschawy \*, A Joannon, A Gibon

\* INRA INPT-ENSAT, UMR AGIR, FRANCE



# A mutual objective on mixed-crop livestock

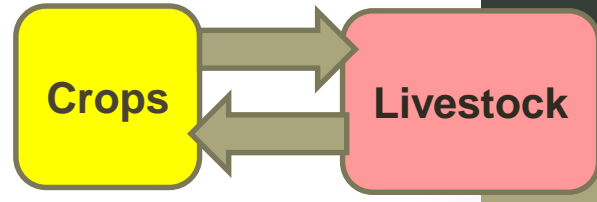


The Coteaux de Gascogne  
*A French less-favoured area*

→ Low specialization of agriculture  
(50% of farms MCLS)

**Local actors : Which future for their MCLS farms?**

**Research : Worldwide regain of interest in MCLS**



**Mutual objective : Evaluating scenarios including technical innovations that could enhance sustainability of MCLS.**

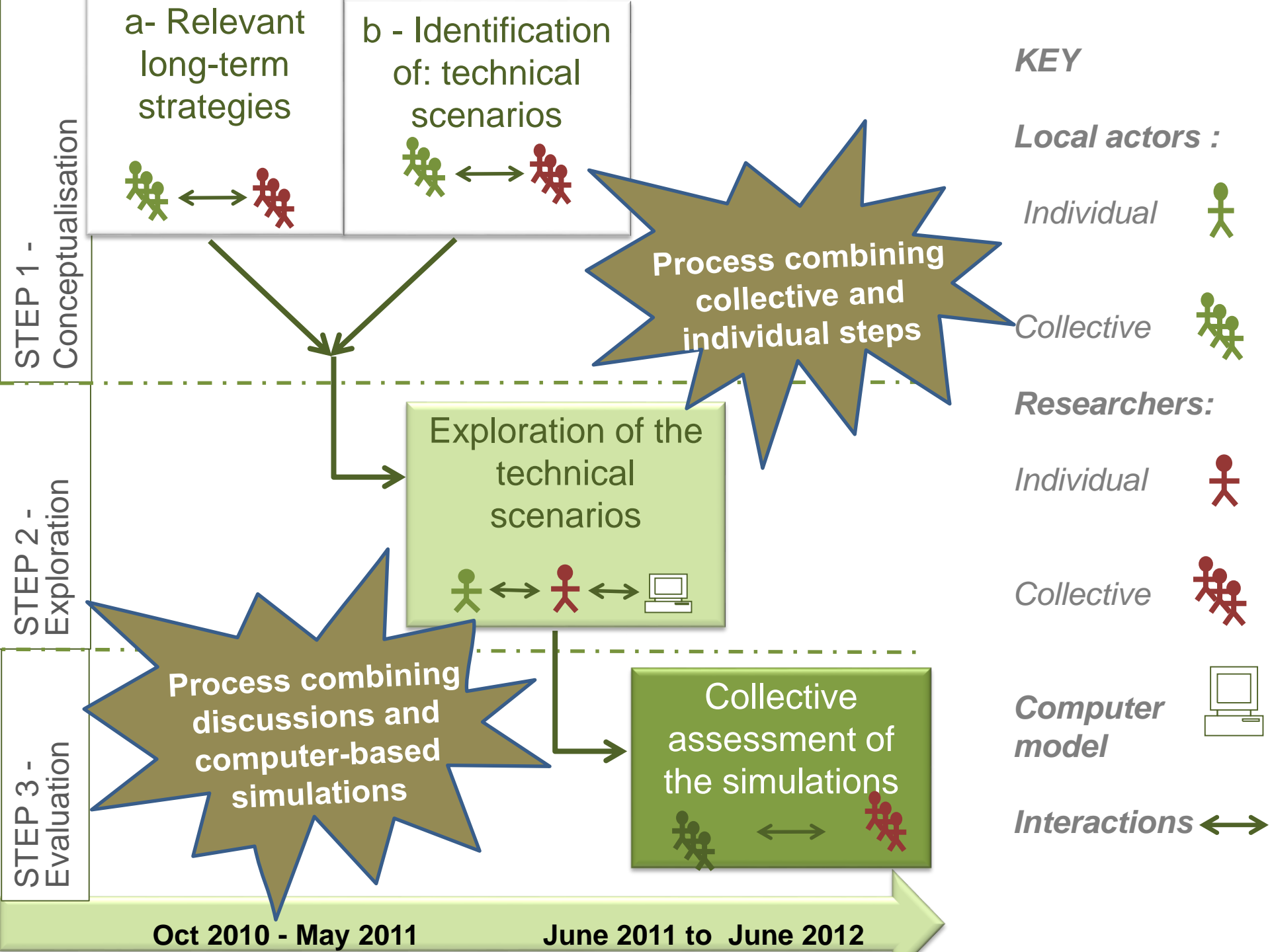
# A specific Local Group of Partners

- ✓ Knowledge on the area
    - ✓ *4 municipalities involved*
    - ✓ *56 farms surveyed*
    - ✓ *Databases on farmers' practices*
    - ✓ *Historical data on farms since 1950*
  
  - ✓ A new partnership working with local actors for our study :
    - ✓ *15 farmers within the 56 surveyed*
    - ✓ *their local advisors*
    - ✓ *2 mayors within the 4 municipalities*
- ➔ **Membership on a voluntary basis**



## Basic requirements

1. Transparency :  
*collective steps definition and evaluation, reports, vote, ...*
  2. Stability of the group
  3. Freedom of expression and respect : *post-its, gathering opinions, mediation,...*
  4. Enthusiasm!
- ➔ **Trust elaboration**



# Step 1a : A retrospective study of farmers' strategies

- ✓ Studying farmers' long-term strategies as a useful material for future studies
  - ➔ *Innovations linked to their strategies*
- ✓ Typology of past farms trajectories from 1950 to 2005
  - *50 farms considered*
  - *2 collective meetings*
  - *12 individual surveys*



Type Autonomy-led farmers (13 farms)  
*"If you want something done right, do it yourself"*

An illustration of a field of sunflowers on the left and a cartoon cow on the right, connected by a large, grey, double-headed arrow pointing in both directions.

Type Diversified family-farmers (8 farms)  
*"Don't put all your eggs in one basket"*

An illustration showing a row of four farm animals: a white sheep, a yellow chicken, a black and white cow, and a pink pig.

# Step 1.c : Participatory definition of prospective scenarios

- Whole participatory process with farmers & actors :
  - 3 collective meetings of 3 hours
  - Technical innovations in line with farmers long term strategies to maintain MCLS



A. A « post-its meeting » : 5 post-it / partner

« What is worrying you concerning the future of your farm? »



# Step 1.b : Participatory definition of prospective scenarios

B. Collective organisation of the post-its :

« Which major uncertainties within the local context? »



C. Vote to select two scenarios (and two real-farms)

« How could we change our practices to adapt to those uncertainties? » → *Scenarios of technical innovations*

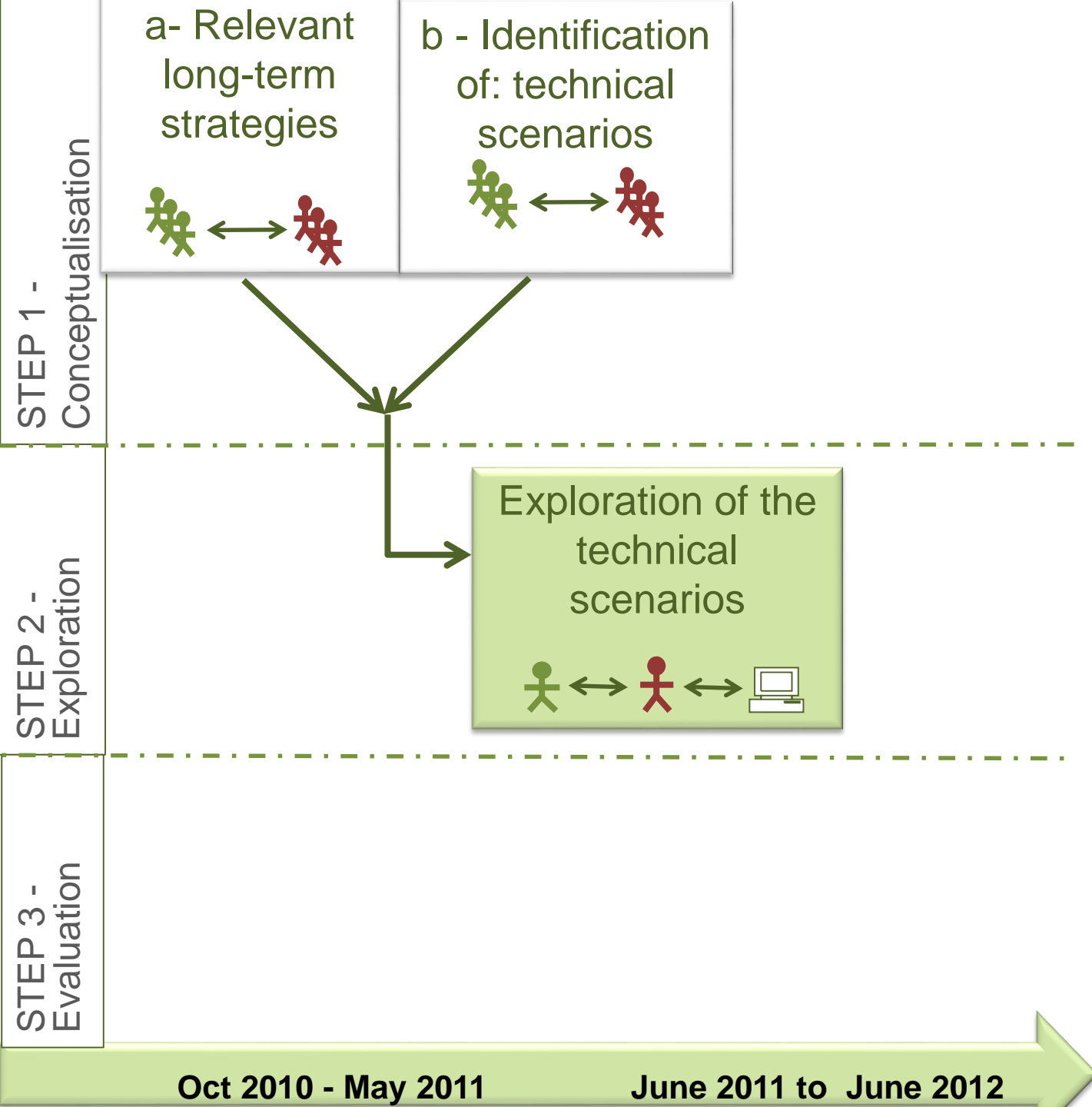
*Type Autonomy-led farmers*

→ **Scenario** : sowing forage legumes intercrops to achieve autonomy for herd feeding

*Type Diversified family-farmers*

→ **Scenario** : adding a finishing unit of heifers to achieve direct sales





**KEY**

**Local actors :**

Individual 

Collective 

**Researchers:**

Individual 

Collective 

Computer model 

Interactions 

# Step 2 : Scenario exploration with the farmer

## *Focus of Type Autonomy-led farmer - Intercropping*

*Farm selected : typical MCLS of the area*

*A farmer deeply involved in the process*

- 133 ha - 50% crops & 50 % grasslands
- 43 suckler cows – Limousine breed
- 1 Working Unit



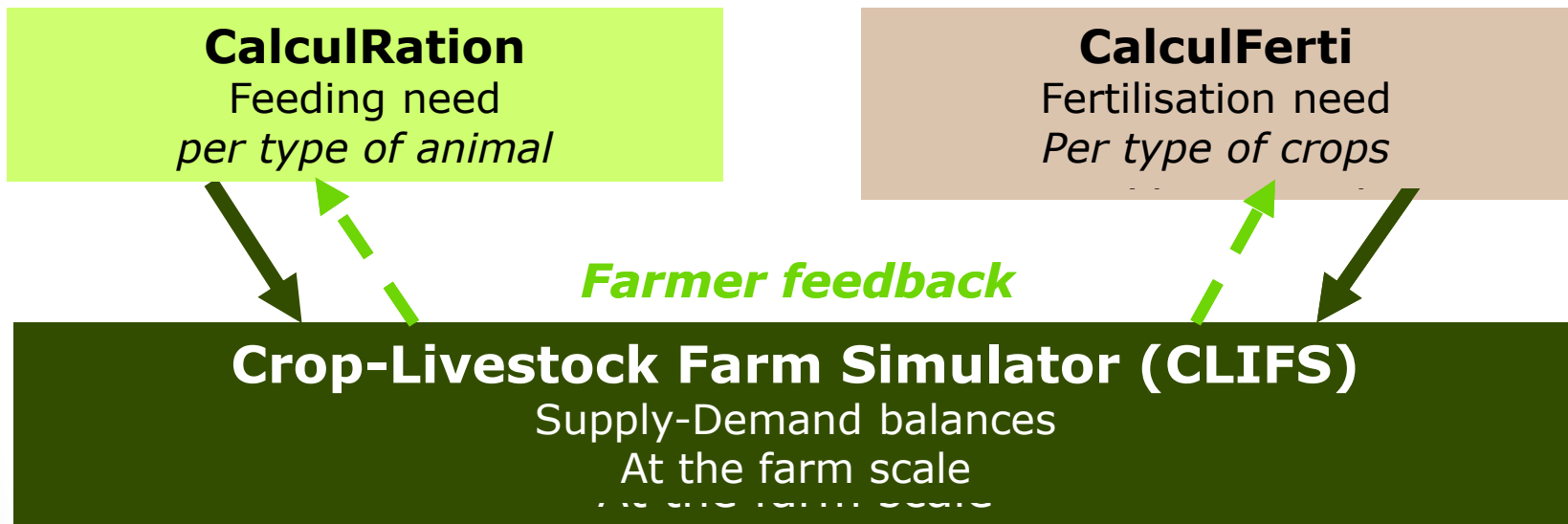
- Precision of farmers' wishes:  
*Two types of intercrops to insert in the rotation*
- Identification of major constraints:
  - *Periods of sowing and harvesting / work organisation*
  - *Feeding quality and low costs*

**→ Legumes intercropping : pure or mixed species**

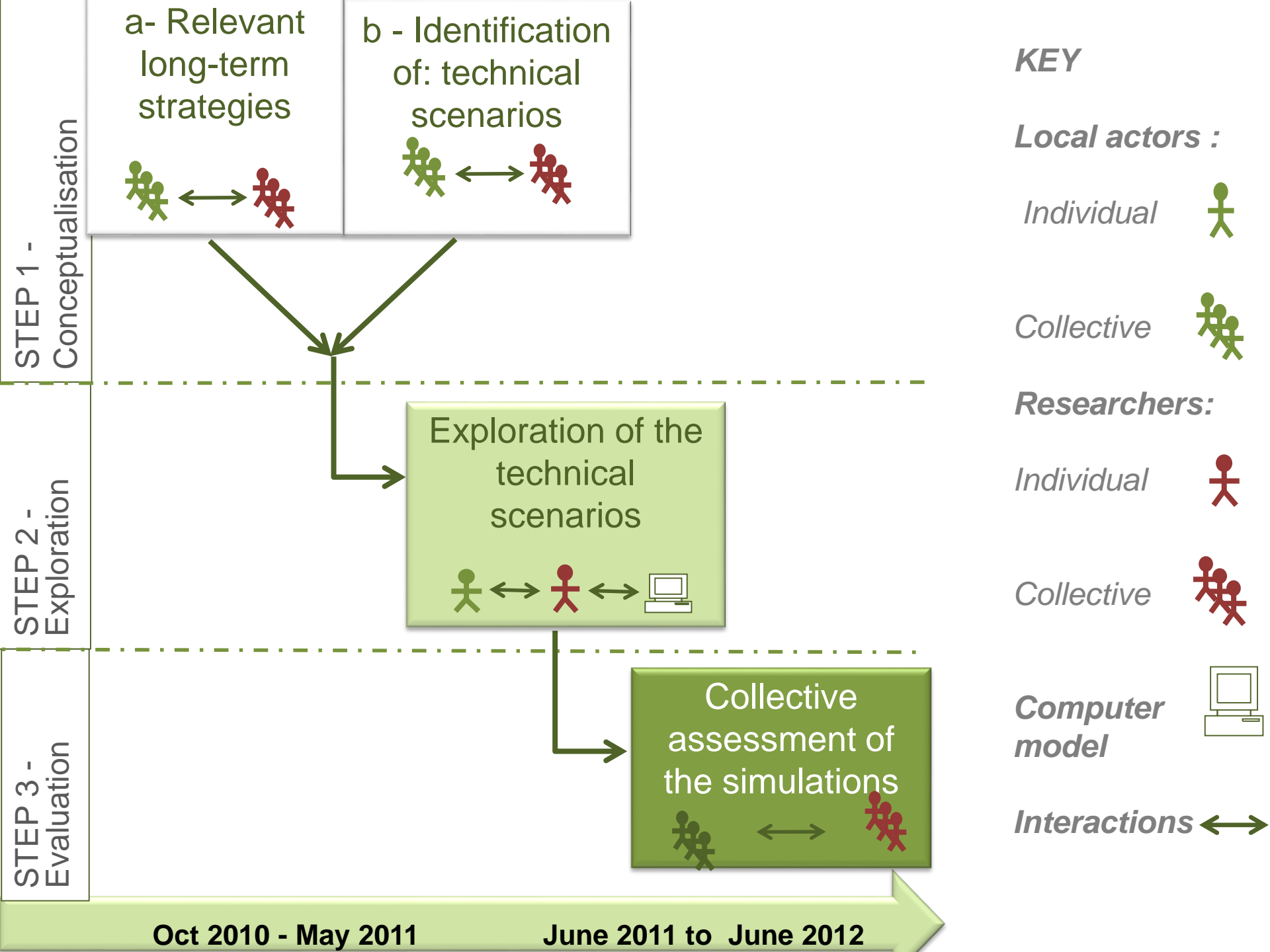
*S1 : Red clover and oat-vetch intercrops / S2 : Premium on red clover*

# Step 2 : Scenario exploration with the farmer

- Simulation with the farmer through a simple computer-based tool



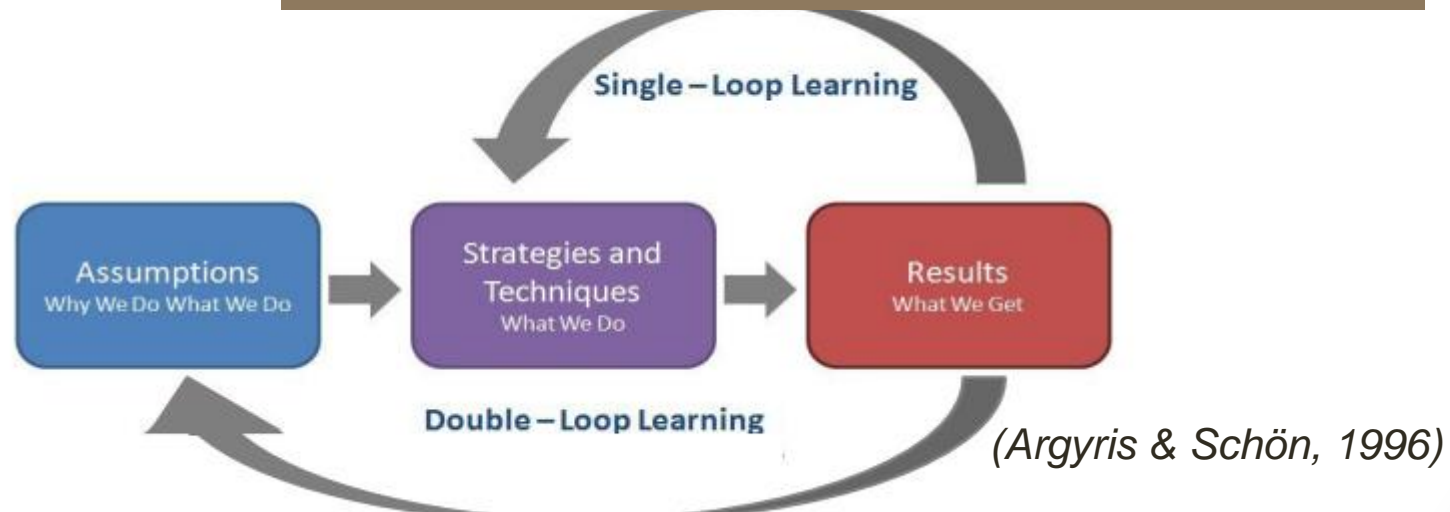
- ➔ 5 to 6 visits of 3-4 hours to specify the technical scenarios
- ➔ Time at the lab to adapt the model and prepare the simulations



## Step 3 : Collective evaluation of the results

- Scenario presented by the farmer himself → motivating other farmers
- Discussions on the technical routines and ... on systemic thinking !:

New technical scenarios of practices to better integrate crop and livestock at the farm scale?



Systemic thinking - *"Everything isn't always a race"*  
*"The performance would be to know when you are spending too much to produce".*

# Strong involvement of local actors

- Interest in local adapted study
  - Relevance of real cases

«*For once, it was concrete and corresponded to our ideas* »
  - New discussions on work organisation



- Importance of collective meetings
  - Posture of researchers

« *We have been listened et could express our views.* »
  - Interactions research/local actors

« *It is really interesting to share views with other core works* »

→ *Other professions could take an objective look at the local situation*

→ *For researchers, learning on contexts and realistic innovations*

# Lessons and limits

- **Time, enthusiasm & confidence in the process needed !**
  - *Many time spent in organisation*
  - *Transparency as a major rule !*
- **Risks were taken «disturbing not to know where we were going»**
  - **Reflexivity of the researchers is essential**
    - *First seen as an expert...then maybe as a partner ?*
    - *Does the research question really come from the actors ?!*
  - **Specific skills needed...Communication...**
- **Which level of implication of the partners?**
- *Adaptations of the group according to steps ...and wishes!*
- *Technical discussions on local real-life farms!*
- **From «out of pure curiosity» to involvement ...**

**My take-home message : Establishing a dialogue based on trust between all types of actors is not easy neither a sure thing ...**

**Thank you !**

