Open-up the (co)design process of farming systems: a reflexive analysis

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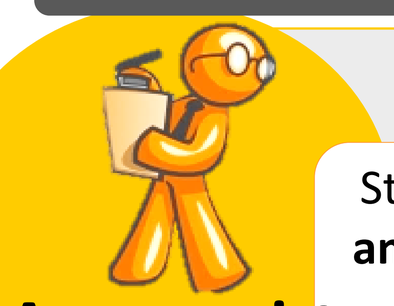
INRA Smach metaprogramme
REDOPIC project (2013-2015)

Context

For several years, participatory methods are increasingly used in agricultural research to design and assess innovative farming systems. However, the **objectives** of the participatory methodologies as well as their **conditions of implementations** are not always extremely clear.

Objective – carrying out a **REFLEXIVE ANALYSIS** on a **participatory research program** driven by social scientists and agronomists working on a system experiment project

Material & methods



Agronomists

ACTION

Step by step **design, experiment and assessment** of pesticide-free vegetable cropping systems

Management, monitoring of the system experiment on station

Participative program

Design workshops: producers + extension agents + researchers

Interactions with experts

Analysis of on-farm innovations

OBSERVATION

Social scientists

Science studies analysis of the context of development of the participative approach :

- Transformation of experimental activities, research themes,
- Nature of partnerships,

Facilitation of reflexive analysis

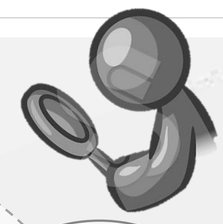
Transmission of writings, decisions explanation

Reflexive analysis

« On the fly » analysis

First results of the interdisciplinary analysis…

We design, step by step, cropping systems combining **knowledge and innovative concepts** from: on-farm innovations analysis, design workshops, expert interactions, system experiment and scientific literature



On farm innovation
Experts interactions
Design process year 1
Design workshops
Results other experiment
Scientific literature

Interactions

Cropping system experimentation
Learnings capitalisation

Interactions

Results expriment n-1
On farm innovation
Design workshops
Design process year 2
Experts interactions
Scientific literature
Results other trials

Results expriment n-1
On farm innovation
Design workshops
Design process year n…
Experts interactions
Scientific literature
Results other trials

What did interdisciplinary interactions clarify during the process?

The nature of knowledge produced-exchanged: “experiential & scientific”

Participatory design process appeared to be **a dynamic learning process** requiring modifications as work progresses: *animation tools, scientific-non-scientific interactions, group composition…*

The importance of having an **“intermediary object”** (ei. system experiment) helping to maintain interactions between partners

Why do agronomists use participatory research methods?

1- Thanks to participatory methods agronomists **consider the multiple dimensions of food systems** in the design process

2- They go over concepts and face it to farmer ’s reality *(normative recommendations, logistic or economic constraints, technical uncertainty…)*

What challenges do agronomists face ?

1 - Designing innovative cropping systems **dealing with different kind of knowledge** : « scientific and experiential »

2 - Building and maintaining a program where **scientific and unscientific interests meet**

3 – To develop a step by step design methodology, synonymous of uncertainty, but appearing as a condition to deal with new knowledge and concepts

Working with partners allowed the agronomists to bring their **work closer to farmer’s realities.** Interactions between agronomists and social scientists generated a **dynamic learning process** which contributed to the evolution of the program. This interdisciplinary analysis outlines the characteristics of a dynamic participative design method opening the door to an “**experiential science**”, a possible future of the knowledge production on research experimental station.

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