Facilitating agroecosystem resilience : study of local agricultural knowledge Resilience 2014 -Montpellier

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New farming practices are emerging in order to respect the environment. There is an heterogeneity of farming practices to meet the needs of development of agro-ecological practices (Demeulenaere and Goulet, 2012). Among all the criteria to be taken into account, organic farming focuses on soil health/quality, which is central to agroecosytem resilience.

An ethnographic study was conducted to identify the farmers' representations of soil quality indicators, allegedly used as decision-making tools in a fragile mountain environment.
=> Representations are here assumed as at the origin of social practices of nature (Descola, 1986).
=> Indicators are here chosen as interdisciplinary boundary-object (Trompette et Vinck, 2009) to link agronomy and anthropology, among others.

What are the farmers representations of soil quality indicators ?
Which of them do they know?
Which of them do they use?

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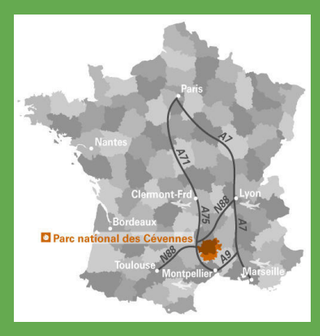
Ten farmers in a French rural department (Cévennes lozériennes) were interviewed between 2012 and 2013. It's an homogeneous field according to geomorphological caracteristics. The farmers comply with the specifications of the "Nature et Progrès" label, which is more binding than the organic label, especially as far as environmental standards are concerned. They practice gGardening on "terrasses". They participate in traditional landscape maintaing through agricultural practices in stressful mountainous environment.
Semi-structured enquiries and participant observation on farmers'soil fertility practices.
Farmers are set up between 2 years to 40 years and are 25 to nearly 60 years old.



Results ans discussion

The study shows a low interest of farmers for indicators of scientific origin. They argue in highlighting the contradictions of non stabilized agro-ecological knowledge. Maintaining optimal agro-ecological conditions is concretely done by empirical indicators developed over their own experience on the spot.

- **Farmers' indicators are built up in a complex way**

The indicators do not focus on soil fertility but on land quality (Jankowski, 2013). Farmers contextualize their soils perceptions in a complex mix of technical, social, ecological, cultural, economical ... criteria.

- **Land quality indicators mix different scales' critera**

Farmers worry about both geographical and spatial criteria. This approach shows an unusual consideration of time and space scales in rural areas, which raises to take into account "the spatial and temporal interdependencies of practices" (Allaire and Dupeuble, 2004).

- **The construction of these complex indicators questions the relationships with nature.**

The indicators are built on the basis of a communicational relationship with the land, and not only as a pure instrumental activity, in the same direction as that observed by Delbos among the salt producers of Guerande (1983), who assume nature as a full entity. The indicators used by farmers participate in the emergence of new local knowledge, hybridation of institutional and experiencial knowledge developed in a dialogic context with the environment. Farmers build their decision-making tools in a participatory way with natural elements

Farmers' agronomy notion oversteps the strictly technical data to go beyond the scope of global ecosociosystem sustainability. This work, by questioning the epistemological bases of the investigated production system, opens the way to think twice about the resilience given by an agriculture which is required to "produce differently."

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