A European landscape of agroecology

Some elements of a long history

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I. Agro - ecology?

III. Political Agroecology ?

V. Agroecology transition?

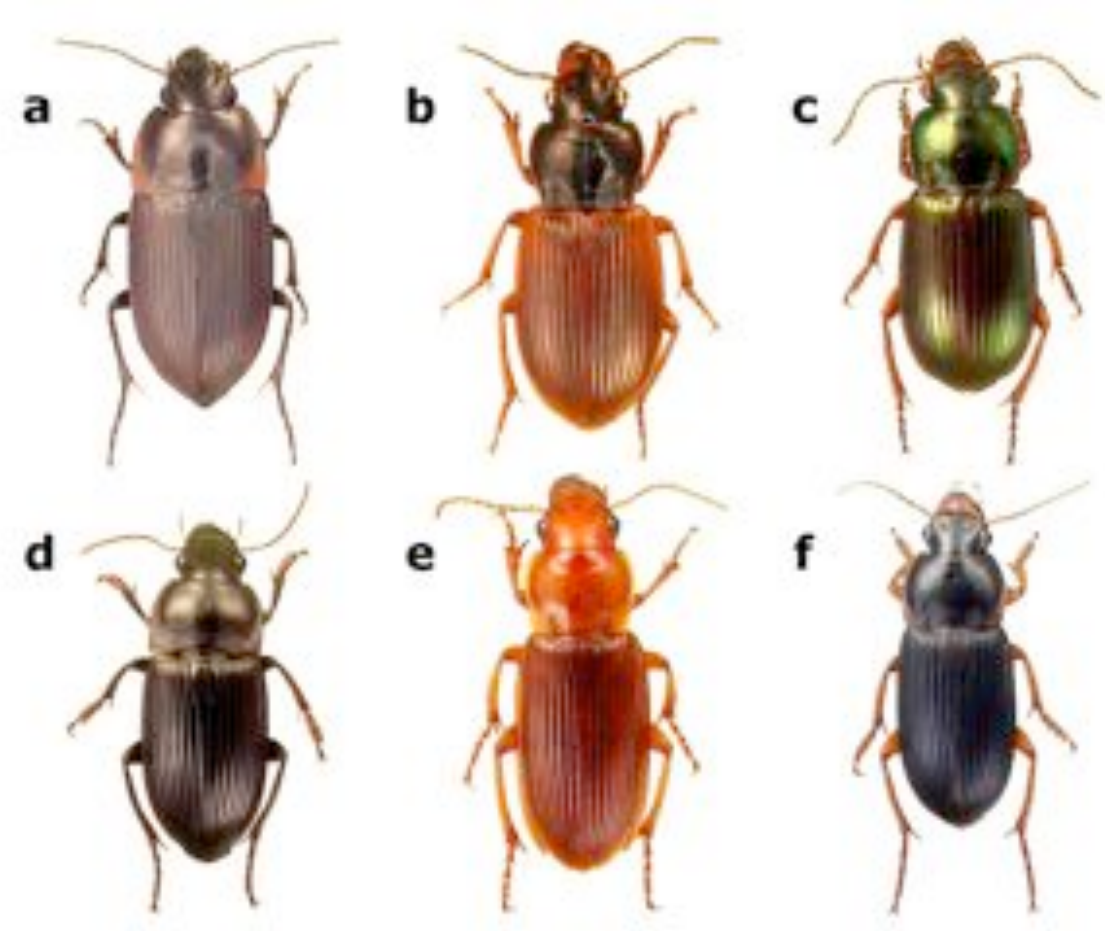
II. Irreversibility & hybridity

IV. Agroecology loosing its soul?

VI. Conclusions

I. “Academic/scientific” approach of a agro-ecology

The scientific basis of alternative agriculture, Altieri (1983)



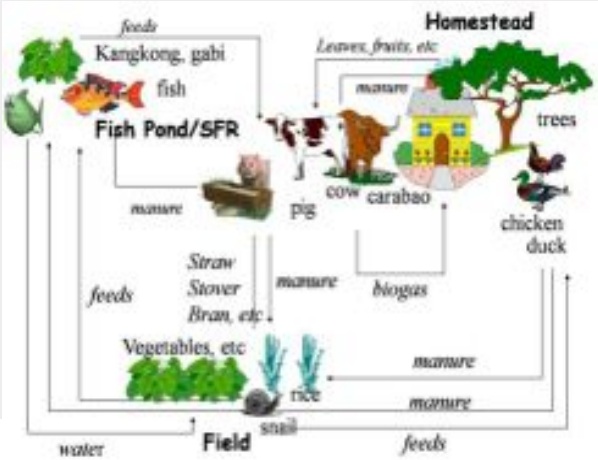
I. “Academic/scientific” approach of a agro-ecology

The scientific basis of alternative agriculture, Altieri (1983)

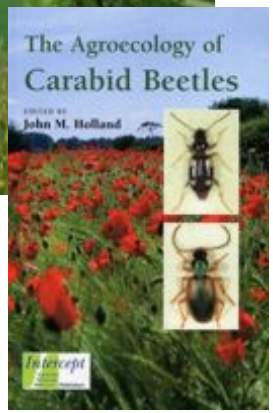
- The landscape ecology-agroecology (Tscharnke 2005 (D), Austria, Switzerland, Denmark)
- From crop yield to landscape time-space scale interaction

scale of plot

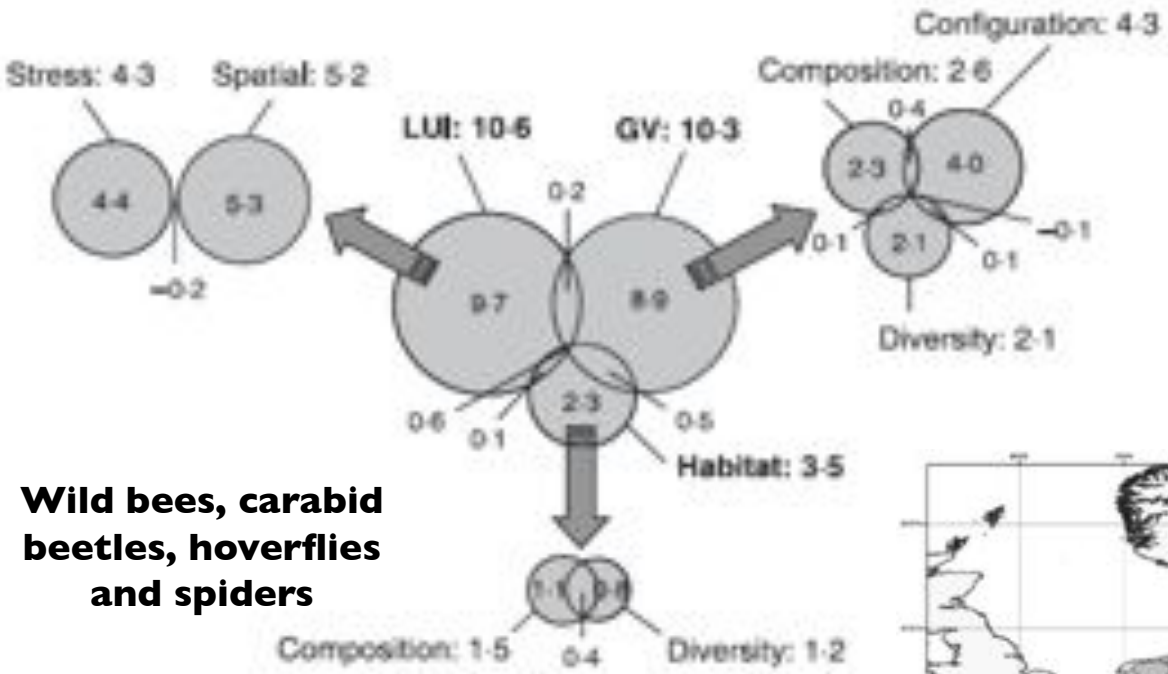
farming system



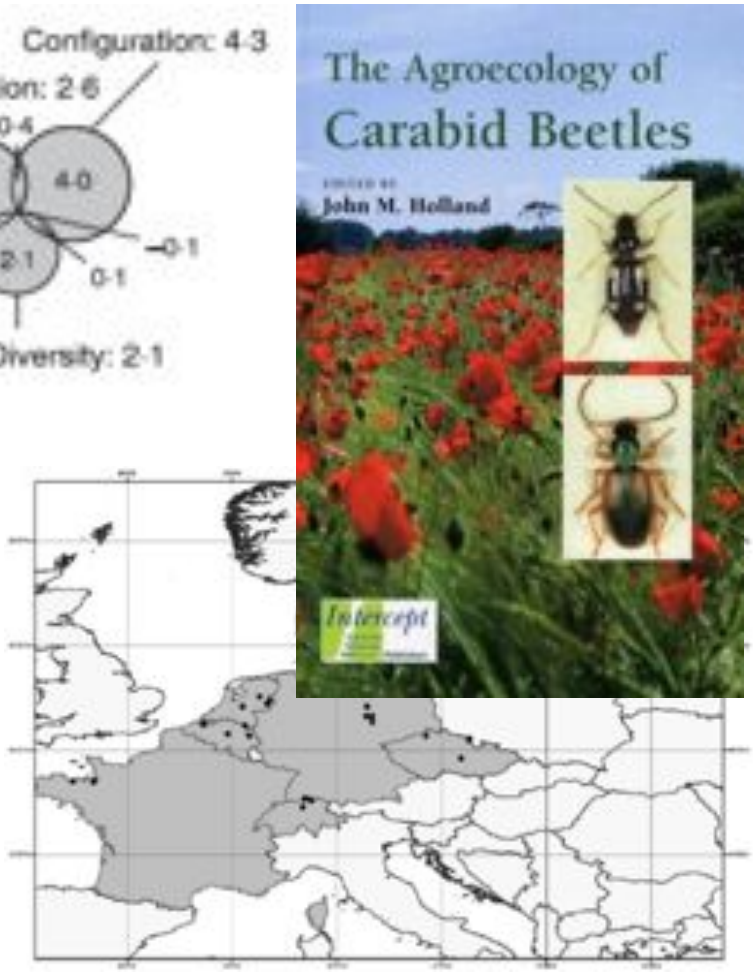
landscape



Landscape level explains arthropod dynamics



Wild bees, carabid beetles, hoverflies and spiders



Schweiger et al. (2005) JAE; Herzog et al. (2006) Europ. J. Agron.; Billeter et al. (2008) JAE

II. The disconnection between production and food consumption (Belgium 1997)

- The lean and tender system of Blue Belgian : an innovation in a context
- Is it still relevant ?
- If not, why is it surviving ?

Alternative practices are hybrid and…
situated

Sciences and practices bear
a socio-political project
and irreversibility

Practices : organic versus agroecology ?

- Organic agriculture is define by specific farming practices coming from various tradition (Biodynamy, Natural agriculture, Permaculture, ..)
- The organic practices evolve with a "social movement" : IFOAM translated in four overarching principles

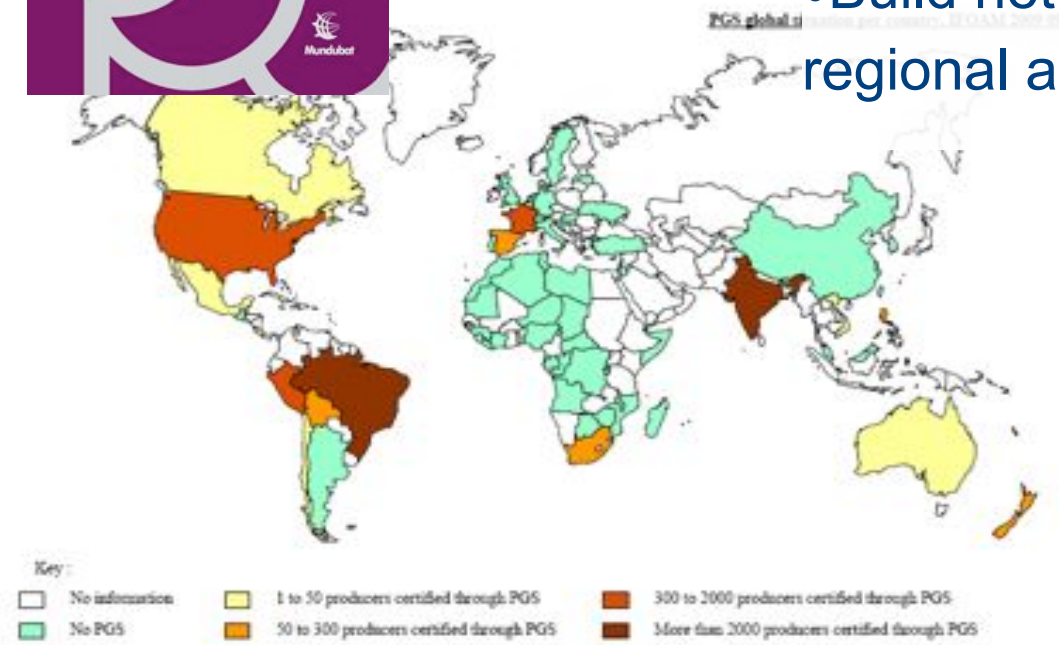
Practices : organic versus agroecology ?

- Organic agriculture is define by specific farming practices coming from various tradition (Biodynamy, Natural agriculture, Permaculture, ..)
- The organic practices evolve with a "social movement" : IFOAM translated in four overarching principles
- Organic agriculture has no tradition to be a way of practising science (see the US/EU Agroecology academic tradition Altieri, Gliessman…)

III. Agroecology as a critic and proposition
Sevilla Guzmann (ISEC/Cordoba)

- A critic approach: resistance to capitalism and “back to the (new) peasants”
- “Endogen development” : Integral development, low external input, co-evolution , short/ regional food circuits, local/traditional knowledge’s, participative development & research,
- Sociopolitical project : struggle for autonomy, reduced inequality and sustainability
- Build a link between agroecology and food sovereignty

Example : Participative Certification and Participatory Guarantee Systems



- A critic of normalisation of the global market.
- A proposal to recognize a mode of existence : autonomy, biodiversity, new peasant,…
- Build networks of local and regional agroecological market

From food chains to food systems as articulation between three levels/dimensions

1. Food chain: all the operators that participated to the material exchange and transformation of the production (food chain economy)

2. Food systems : to overcome the linearity of food chain

   1. Assume the inclusion and interactions of institutions: consumers, public policy, NGO, research programs, local policy, prescriptions, …

   2. … involved in the qualification process (quality is never defined "a priori", by "the" consumer") and the building of ressources.

   3. Agrifood systems are embedded in the global food regulation systems : 1945 : post war "regime" - 1983 : post productivist - 2008 neo productivist compromise.

Our food systems are not anymore the "post-war" food chain

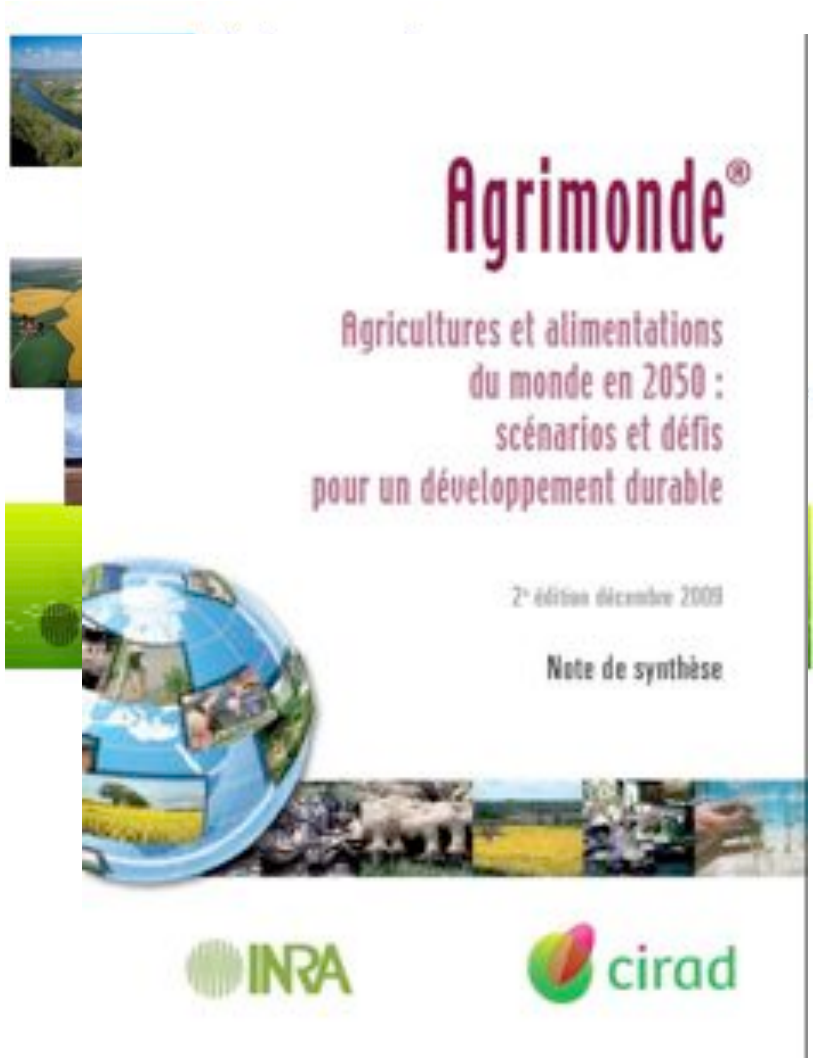
What does means
"Agroecology is the application of ecology to food systems ?"

IV. Institutionalizations of Agroecology

- One of the strategic priority of INRA.
- Agroecology as a 'Revival of the agronomy tradition' versus 'Agroecology of food systems an interdisciplinary & participatory research approach'?
- Proliferation of concepts : translation or watering of Agroecology?

* "Ecologically Intensive Agriculture"(Griffon/A.E.I)

* "Eco-functional intensification" (TP Organic/IFOAM)



Eco-functional intensification

activating more knowledge and achieving a higher degree of organization per land unit. It intensifies the beneficial effects of ecosystem functions including biodiversity, soil fertility and homeostasis. It uses the self-regulating mechanisms of organisms and of biological or organizational systems in a highly intensive way… (Nigli 2008)

Socio-political principle of agroecology (GIRAF)?

(beside the historical five agroecological principle of Altieri)

1. Recognize and make good use of the **diversity of skills/ /knowledge/practices** (local, tranditional)**.**

2. Generate **collective capacity and adaptability** through networks/ cooperative/association involving producers, consumer citizens, researchers, and government technical advisors

3. Foster the possibilities for choosing **autonomy** from the global markets

(Giraf (B), 2012)

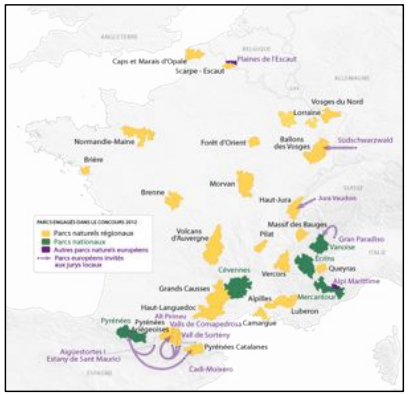
V. Transition : The National Agricultural contest «*Flowering meadows* »

1. Put agricultural extensionists and nature managers and beekeepers in a field situation to cross point of views on vegetation

2. The agroecological assessment as a learning process between actors of different expertise domains

3. To develop a functional approach of interactions between production and biodiversity

A price of excellence for the « best » agri-ecological management



The National Agricultural contest «*Flowering meadows* »

Building a larger list crossing several criteria & linked to natural habitats

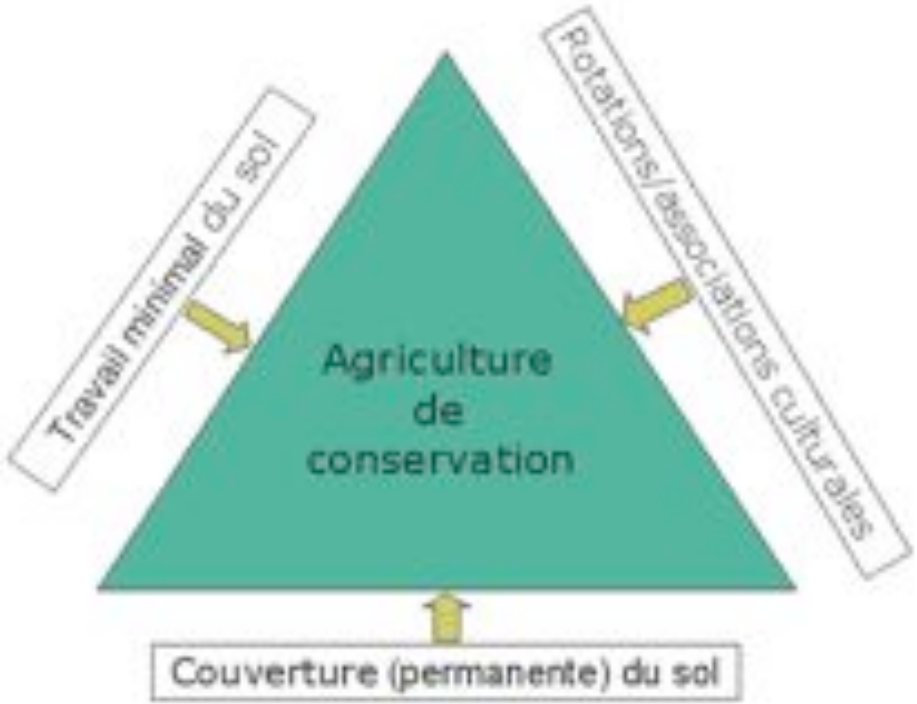
- Productive value (forage, honey, aromatic)
- Excluding high sensible species (rare) facing cutting and grazing
- Excluding species associated to « degraded » situations
- Species easely observed by actors (flowers)

Boeuf des prairies gaumaises www.boeufgaume.be

Redesign stockfarming systems

Cuestas asbl (GAL Leader+)
Marché fermier Ansart (CDR asbl)
Centre de Recherche Agronomique (CRA-W)
Université de Liège (Arlon)

(Soil) Conservation Agriculture, the silent spring ?



20% winter cereals in South Belgium

140.000.000 ha in the world of heterogene situation : Zero tillage – No tillage – Direct Seeding – Simplified Croping Technics – Mulch croping

(Soil) Conservation Agriculture, the silent spring ?

- Technical /Pragmatic/ organizational process of decoupling
- Systemic de- coupling / redesign of the soil meaning
- Conversion :
  - From no-till/limited perturbation to Direct Seeding/ no perturbation
- Ambivalent perspective deconnection with the chemical plouging : organic or continuum with green chemistry

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Peasant seeds

Social stakes of biodiversity, climate change, food security

Shift Agroindustrial Parardigm « DHS » seeds

« Crop breeding based on decentralized selection can still miss its objectives if it does not utilize the farmers' knowledge of the crops and the environment, and it may fail to fit crops to the specific needs and uses of farmers' communities unless it becomes participatory.» (Ceccarelli et al. 2000)

Laboratory of the triangle of agroecology

A change is required but there is no unique model of transition : from gradual change to redesign

Agroecology need to elaborate pathway of transitions

Conclusions

- Agroecology is neither exclusively a practices neither exclusively a social movement neither exclusively a way of making science. It is a federative concept

- Model and experience are heterogeneous, situated and sometimes ambiguous, there is a need of bottom up and top down approach

  - Bottom up approach : Observatory of agroecology innovation between practices and science
  - Top down approach: Prospective to design various scenarios of transition

Conclusions

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- Model and experience are heterogeneous, situated and sometimes ambiguous, there is a need of bottom up and top down approach
- Innovation is not neutral/apolitical, there is a need of paradigm shift because systemic lock-in. Shift may be possible if
  - Reinvention of social movement in the North & public policy
  - New Training and new way of doing science (the interdisciplinary – participatory GRAAL)

Acknowledgments

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www.agroecology.be







& Marc M., Jean-Claude G., Thierry H., Corentin H, Louis H., Denise V.

How should the agroecology training make the difference with the classic academic cursus?