Innovation in agriculture

Nic Lampkin

Organic Policy, Business and Research Consultancy
http://niclampkin.eu

Evidence to the European Parliament Agriculture Committee, Brussels, 18 February 2020

What is innovation?

- OECD defines it as the implementation of a new or significantly improved product (good or service), a new marketing method or a new organisational method in business practise, workplace organisation or external relations (EC SCAR 2012).
- Not only invention, requires adoption
- Not a thing, but a process leading from original idea to research and development, testing, widespread uptake and real improvement in a situation

Two different perspectives of looking at innovation

Technology push

- Widespread in agricultural sciences
- Investment of input companies
- Social/societal innovations ignored
- Focus on invention and innovator

Innovation system

- Process oriented
- Application of knowledge (of all types) to achieve desired social, environmental and/or economic outcomes
- Focus on enabling interaction among stakeholders (user community)

Ecological innovation

Not just about new technologies. Improvements in ecosystem design and management to deliver desired outcomes can also be innovations

- Efficiency
- Substitution
- Redesign

Replacing inputs with knowledge

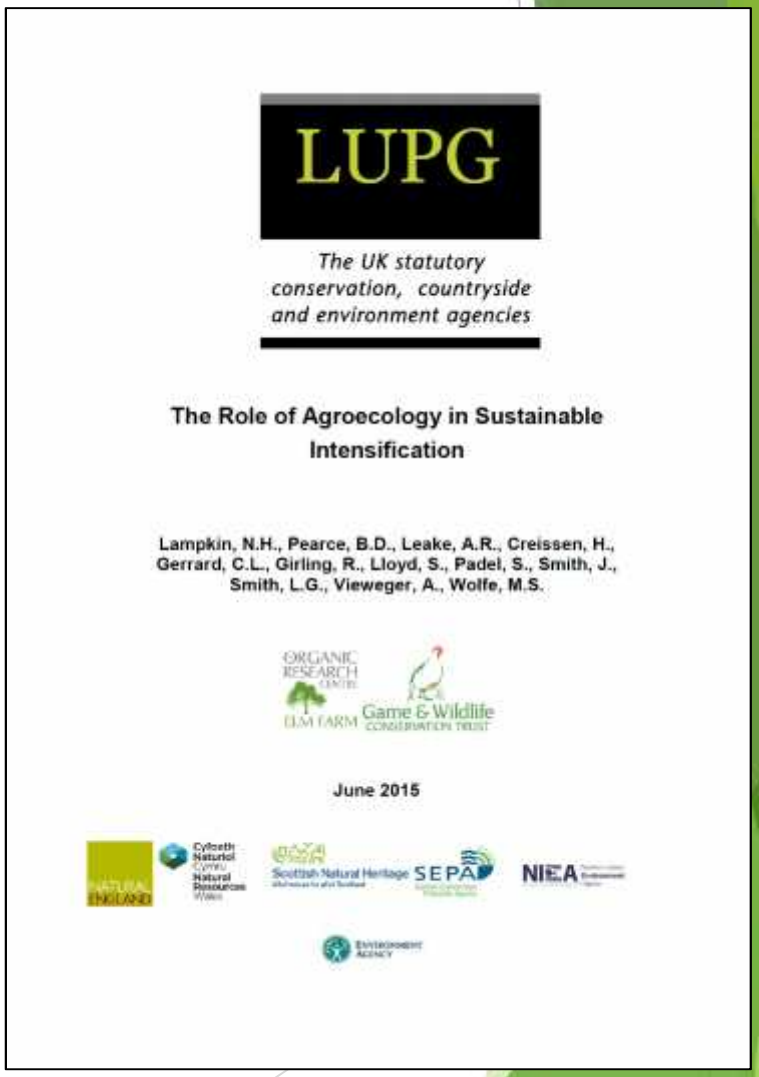
Systems which limit inputs foster innovation

"Organic farming with its stringent rules on external input use has to be even more innovative to solve production problems, sometimes opening up new avenues"

Source: IAASTD (2009). Agriculture at a Crossroads: *Global Report, p. 384.*

Agroecology

- Science of the ecology of agricultural systems
- Application of ecological principles to the design and management of agricultural systems
- More radical, social perspectives
- Spectrum of approaches, including:
  - Conservation agriculture
  - Circular agriculture
  - Integrated production
  - Organic farming
  - Agroforestry
  - Permaculture


LUPG

The UK statutory conservation, countryside and environment agencies

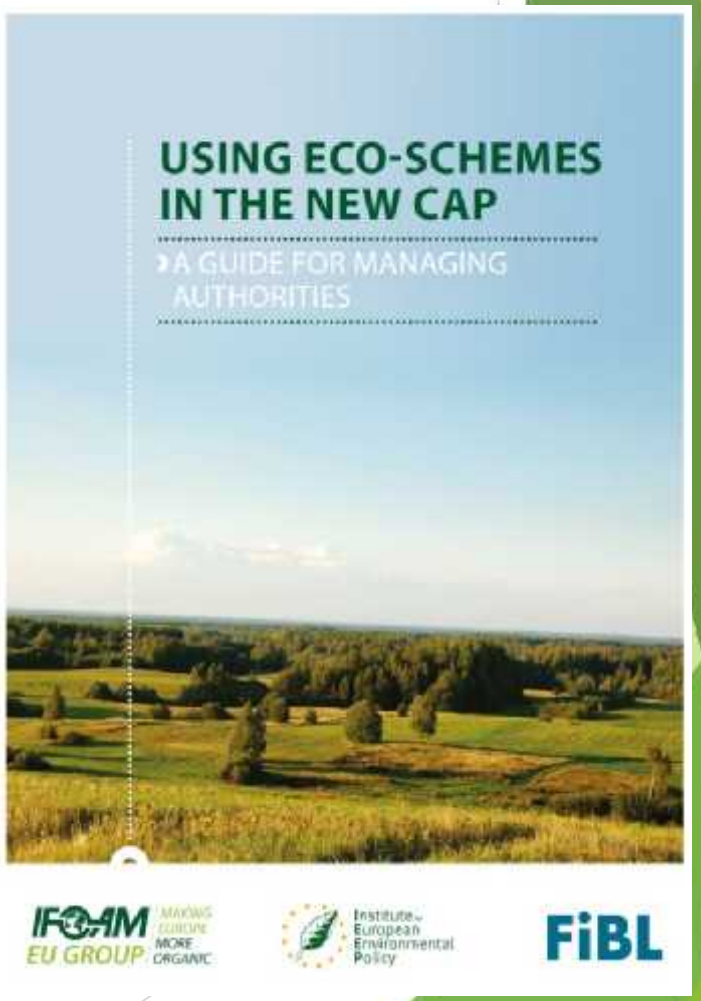
The Role of Agroecology in Sustainable Intensification

Lampkin, N.H., Pearce, B.D., Leake, A.R., Creissen, H., Gerrard, C.L., Girling, R., Lloyd, S., Padel, S., Smith, J., Smith, L.G., Vieweger, A., Wolfe, M.S.

June 2015

Policy relevance: 1. AECMs and Eco-schemes

- More potential to focus on multi-functional, agro-ecological, system-based approaches
- Innovation for the public good
- Needs full support from information and advisory services



Policy relevance: 2. Research

- EU Framework Programmes (e.g. H2020)
  - TP organics
- National programmes, e.g.
  - FR: ANR Cultiver et protéger autrement (2019 call, 30M€)
  - DE: Bundesprogramm oekologischer Landbau und andere Formen nachhaltiger Landwirtschaft (BOELN, 30M€ annually)
- EU research programmes very important for countries with limited national programmes
- Need to maintain and increase focus in Horizon Europe (FW9)
- Importance of multi-actor approaches

Policy relevance: 3. EIP-Agri

Three levels:

1. Operational groups – more focused on adoption and systems than on new inventions
   - More than 900 groups in total
   - 20% organic farming
   - A majority (53%) focus on ecological/environmental sustainability, combination of ‘organic’, ‘conservation’, ‘ecologic’, ‘circular’, ‘biobased’ etc.
2. Focus groups – providing thought leadership, e.g. Grazing for Carbon
3. Multi-actor – link to Research Framework Programmes

Policy relevance:
4. Agricultural Knowledge and Information System (AKIS), Farm Advisory Service(FA)

- Need to ensure:
  - both current and future actors (students) are targeted
  - participatory engagement of users, and the exchange of information and experience (not a linear pipeline of knowledge)
  - AKIS and FAS can be fully utilised to support the Green Architecture
  - dissemination of ecological innovations is supported (IP not owned by corporations)

Conclusions

- Innovation is a process, not a product
- Make ecological innovation central and complementary to technological innovation
- Continue and develop focus on ecological innovation in research, innovation and advisory programmes (FW9, EIP, AKIS, FAS)
- Recognise need for innovation for public good to improve AECMs and Eco-schemes