



The Open University

# **EU agricultural research: Current imbalances and future perspectives**

'The Potential of Agroecology: Reclaiming the food crisis',  
European Parliament, 9 November 2012

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# Agroecology as oppositional

- Agroecology has been understood in three related ways: as a scientific discipline, an agricultural practice, and a socio-political movement. Plus linkages among all three.
- In the global South, especially Latin America, social movements name themselves 'agroecology'.
- Promote knowledge of cultivation methods which both produce food and conserve resources by adapting ecological processes.  
They criticise agro-industrial methods, the dominant agronomic science and 'organic' food as an elite market.

# Brazil: agroecological practices, marches and fairs



# Different EU context

- Agroecological practices have been closely linked with organic farming here.
- Organic farming has been promoted through several EU policies – regulatory standards, Rural Development Programme, and research agendas since at least the early 1990s.
- But the term ‘agroecology’ rarely appears in EU policy documents, nor in research priorities.

# Agroecology in EU research?

## Questions

- How does agroecology relate to European research?
- What have been the difficulties – and efforts to overcome them?
- How could agroecology gain a larger role in research priorities?
- How can we make this happen?

Let us return later to those questions.

# Action-research on agroecology

- Answer those Qs by telling a story about my involvement in these issues through research, which turned into action-research.
- FP7 project: 'Cooperative Research on Environmental Problems in Europe' (CREPE), in which civil society organisations (CSOs) carried out studies as full partners.
- Project critically analysed the EU agenda for a Knowledge-Based Bio-Economy (KBBE), a concept informing Research & Innovation.

# Bioeconomy: imbalanced priorities

- When soliciting public support for greater R&I expenditure, EU policy language casts the 'bioeconomy' in broad terms: its current activities generate 3 trillion euros (incl. agri-food production).
- When specifying R&I priorities, however, priority is given to the Life Sciences and converging technologies, along with functional food.
- Such tensions originate in 2005 rationale for 'bioeconomy', to re-launch the Life Sciences, mainly for non-food products.  
Agri-research priorities have been imbalanced in relation to societal needs, especially for farmers' knowledge-input into agri-food production.

# Bioeconomy as a competitive race

- Bioeconomy concept has a dominant vision: promoting the Life Sciences for a global competitive race, whereby Europe must catch up with an inevitable future.
- Extends Lisbon Agenda for the EU to become 'the globally most competitive economy by 2010'.

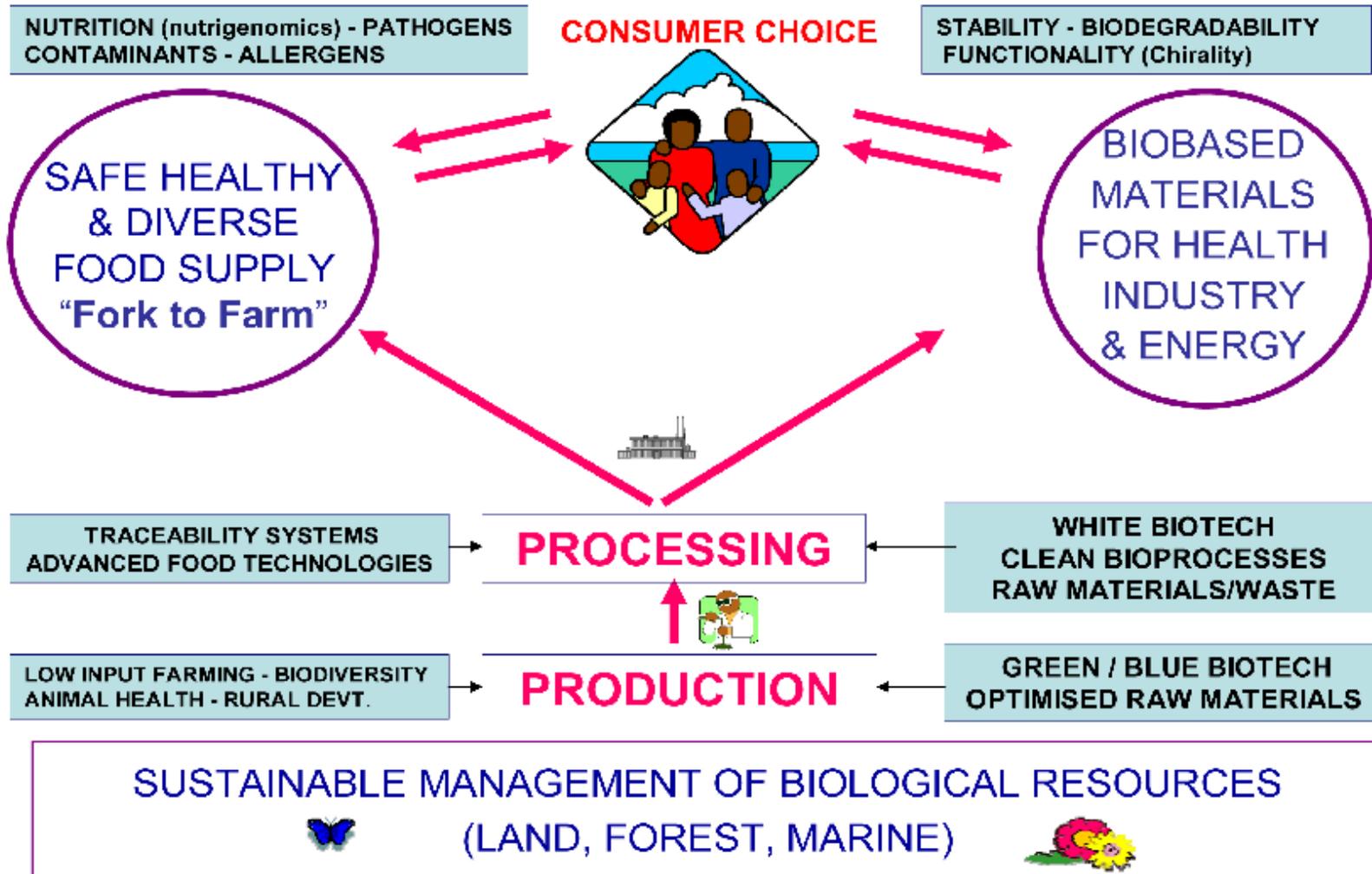


# Eco-efficiency = sustainable development

- Bioeconomy extends earlier environmental policy through the search for eco-efficiency, which is equated with sustainable development.
- Living matter will be used more efficiently, thus substituting for fossil fuels.
- Science redesigns crops as 'renewable raw materials' and improves conversion methods, thus broadening the range of viable inputs.
- Bioeconomy concept has informed the EU's Framework Programme 7.

# Bioeconomy as FP7 vision

## THE EUROPEAN KNOWLEDGE-BASED BIOECONOMY

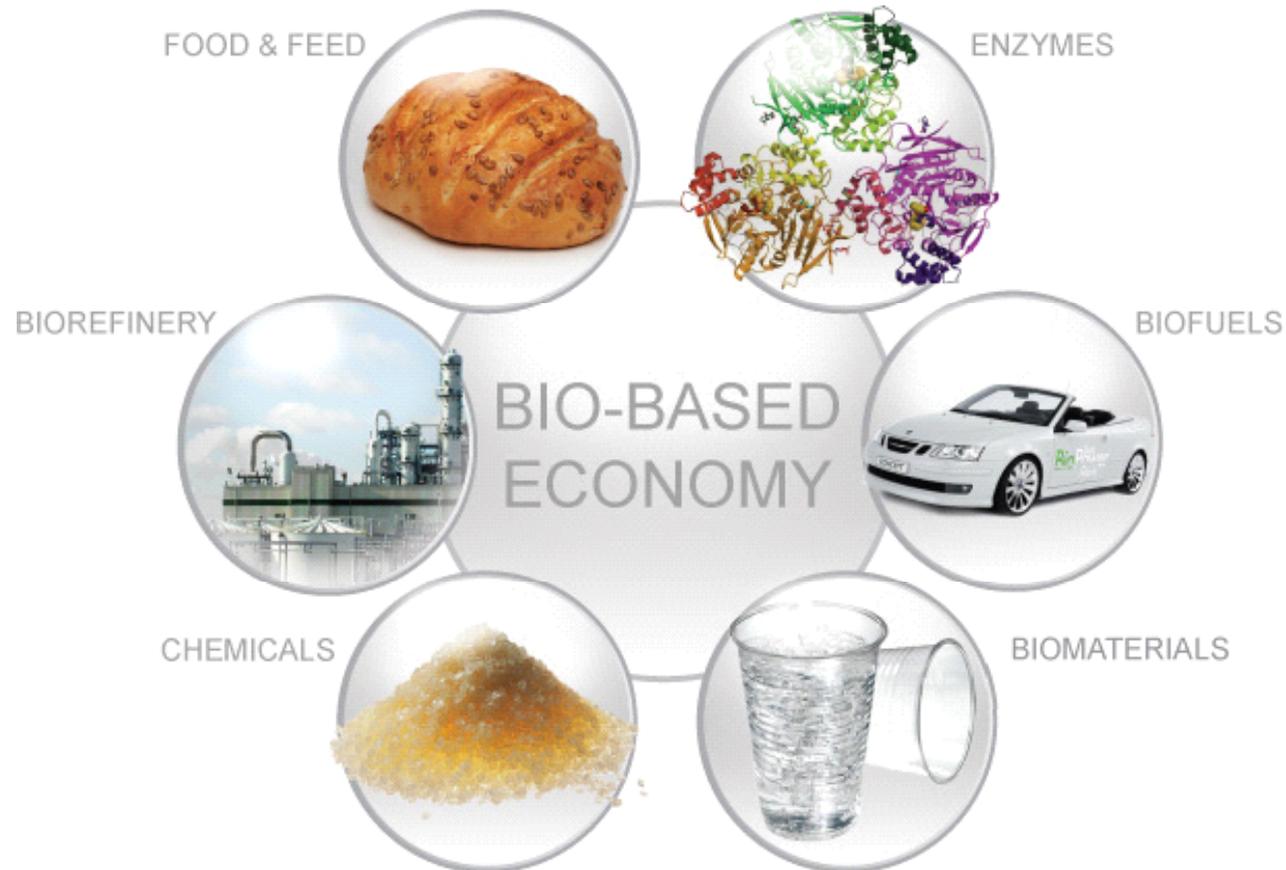


# Life Sciences agenda: what challenges?

- European Technology Platforms (ETPs) have been invited to propose FP7 research agendas across many industrial sectors.  
They promote Life Sciences agenda, foreseeing a transition from fossil fuels to abundant renewable resources, thanks to genomics.
- Such techniques facilitate patents:  
'Knowledge and intellectual property will be critical.'
- A major societal challenge – rising food demand versus resource constraints – must be addressed via more efficient production, as if the problem were inefficiency.
- Agriculture is seen as 'oil wells of the 21<sup>st</sup> century'.
- An 'integrated diversified biorefinery' would convert biomass into an array of industrial products.

# Bioeconomy as horizontal integration

(industry network website, [www.bio-economy.net](http://www.bio-economy.net))



# Funding Life Sciences in FP7

- FP7 programme on Food, Agriculture, Fisheries and Biotechnology (FAFB) has favoured Life Sciences: converging technologies help to identify biological characteristics which could enhance value chains in future markets.
- Of its average annual budget of €200m, the FAFB programme has allocated approx. one-quarter to Activity on 'Life sciences, biotechnology and biochemistry for sustainable non-food products and processes'.
- Biotech research has been largely shifted to non-food uses, including energy and other industrial products.
- Enhance global economic competitiveness through 'market-driven' priorities, e.g. for intellectual property.

# Agro-ecology: rival vision of bioeconomy

- Organics industry sought to influence EU research priorities, initially by proposing a ETP for Sustainable Organic and High Welfare Food and Farming Systems:  
these 'are an important and fast-growing part of the European knowledge-based bio-economy' (2006).
- Like other ETPs, this one submitted a proposal for initial funding by the Commission; proposal was rejected.
- Nevertheless IFOAM launched 'Technology Platform Organics' in 2008.
- Gained wide stakeholder support, including commercial actors across the agro-food chain, COPA's organics section, and environmental NGOs.

# Societal challenges

- Diagnoses a problem of low productivity:

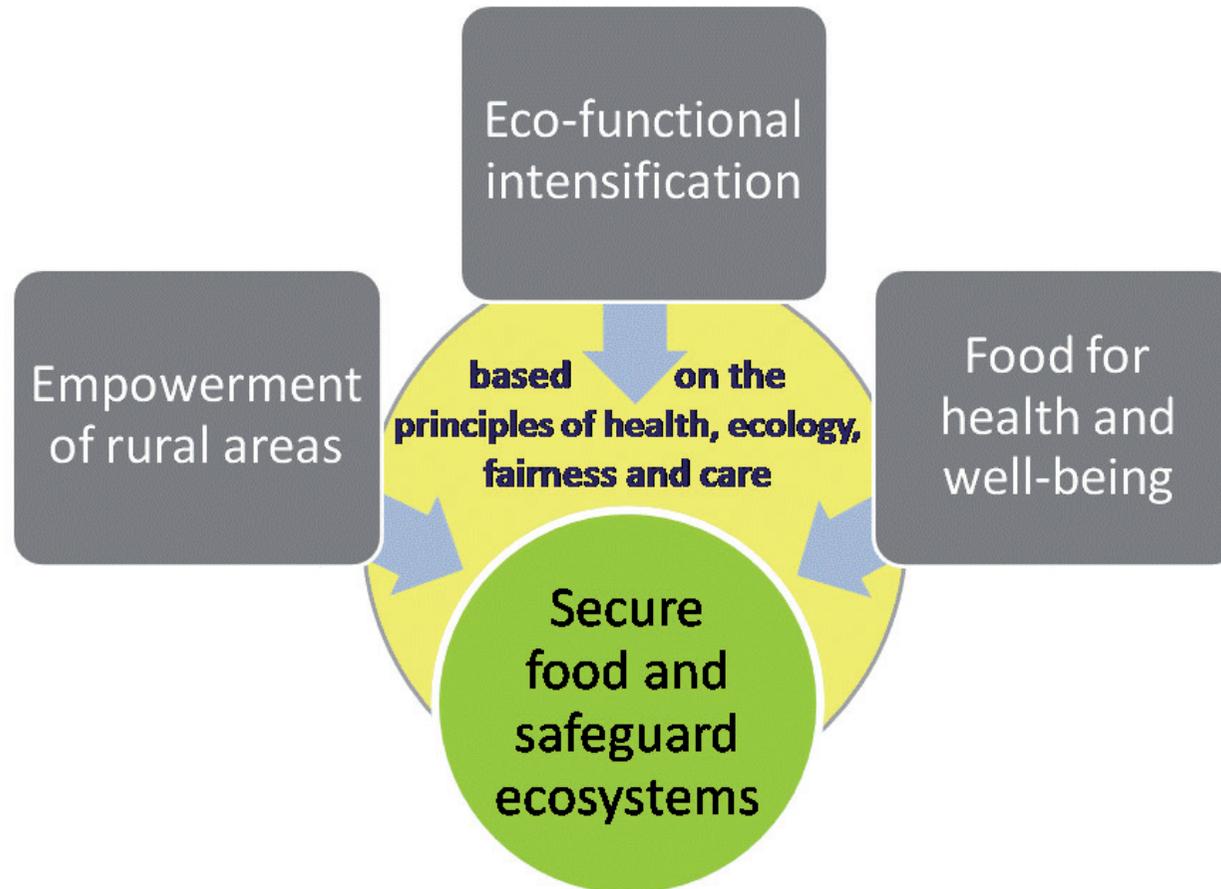
This could be solved by means of appropriate 'eco-functional intensification', i.e. more efficient use of natural resources, improved nutrient recycling techniques and agro-ecological methods for enhancing diversity and the health of soils, crops and livestock... Organic farming is a highly knowledge-based form of agriculture involving both high tech and indigenous knowledges...

*Vision for an Organic Food and Farming Research Agenda to 2025*

- Productivity problem should be addressed through better knowledge of resource availability and recycling, by closely linking farmers with researchers.
- Science should analyse why agroecological methods work in some contexts, to deepen farmers' knowledge and expand the relevance to agriculture.

# Three themes for organic research

(TP Organics, 2009)



# Gains for agroecological research

- In response to proposals from TP Organics, FP7 budget has increased funds for agroecological research, by now reaching €37m.  
Gains are not obvious: agroecology remains implicit.
- **Topics include:**  
ecological services based on eco-functional intensification,  
enhancing soil management,  
recycling organic waste via mixed farming,  
replacing chemical or copper pesticides with bio-control agents,  
short chain delivery of food for urban-peri-urban areas, including  
'sustainable solutions for water management and nutrient recycling'.
- Short supply chains (*circuits courts*), based on consumer-citizen knowledge, help to remunerate farmers for cultivation methods which have lower productivity.

# Promoting agroecology vs dominant agenda

- In the run-up to Horizon 2020, TP Organics faced a dilemma: simply promote its agenda and be marginalised, or else attack Commission's proposal and perhaps jeopardise support from decision-makers.

## Statement from TP Organics:

a purely technological understanding of innovation action, focusing only on the production of commodities as raw materials for food and other industries, is likely to miss the innovative potential that farms and food supply chains are able to offer.

- TP Organics also joined with many CSOs in collectively attacking the Commission's dominant agenda and counterposing alternatives across many sectors.
- Modest success: Eco-functional intensification was included in the Commission's proposal for H2020.

# Action points for research

- EU Presidency conference on 'Organic and Low-Input Agriculture: Implementing innovation to respond to EU Challenges', Sept 2012. Some action points:
- Enhance agroecological methods and demonstrate their wider relevance beyond organic agriculture.
- Shift agro-food systems from maximum productivity to sufficiency and resilience.
- Extend short food-supply chains.
- Explore synergies with other rural activities (agro/eco-tourism) as a basis for equitable incomes.
- Expand the organic sector and use its knowledge to influence conventional agro-food systems.
- Promote multi-actor exchange of know-how, not transfer.

# Dilemmas in research agenda-setting

- Promote agroecological research for general relevance to agriculture, but without undermining the special status of organic food.
- Build scientific knowledge of agroecological methods in cooperation with farmers, but without obscuring their specific local knowledge.
- Criticise the dominant agenda in order to promote agroecological research, but without jeopardising potential support.
- Expand short food-supply chains to reach more consumers and better remunerate producers – but without losing their special product-identity.

# Questions to discuss

Europe already has links among three roles of agroecology – as scientific knowledge, agricultural practice, and social movement.

## **Questions**

- How can agroecology gain a larger role in research agendas? (national and EU levels)
- How can we make this happen?
- What roles can we play as consum-actors?

# Our relevant publications

- Birch, K., Levidow, L. and Papaioannou.,T. (2010) Sustainable capital? The neoliberalization of nature and knowledge in the European “Knowledge-Based Bio-economy”, *Sustainability* 2(9): 2898-2918; <http://www.mdpi.com/2071-1050/2/9/2898/pdf>, doi:10.3390/su2092898
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- Schmid, O., Padel, S. and Levidow, L. (2012) The bio-economy concept and knowledge base in a public goods and farmer perspective, *Bio-based and Applied Economics (BAE)* 1(1): 47-63, <http://orgprints.org/20942/>, <http://www.fupress.net/index.php/bae/article/view/10770>