

International workshop on System Innovations, Knowledge Regimes, and Design Practices towards Sustainable Agriculture

**Lelystad, The Netherlands
16-18 June 2010**

Call for Papers

Contact and further information

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<http://www.duurzameveehouderij.wur.nl/UK/SI-Agro-Workshop/>

Scientific and Organisational committee

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Goals

The aim of the scientific meeting is to bring research insights and practical experiences together and discuss these in-depth to form a basis for effective strategies (policies as well as others) to stimulate transition towards sustainable agro-food systems.

The meeting will produce an overview of analytical methods, experiences and scientific insights of the main issues at stake in sustainability projects and programmes. By doing so, the meeting seeks to contribute to three goals, notably:

- Comparing and contrasting the issues of analysis and of governance of innovation and R&D practices in various European countries;
- Giving input to rethinking government policies, socio-professional strategies and civic concerns with the view to contribute to sustainable developments in the agro-food systems on the basis of existing research and experiences;
- Defining the content and the agenda of a possible consortium for further research. Such research would have an analytical component (to analyse the relevant processes) as well as a constructive component (to play a role (in co-operation with other stakeholders) in the development of sustainable alternatives).

Invited participants

Participation is by invitation only. Participants will be selected on the basis of submitted abstracts. The format emphasises in-depth discussion and therefore only 15 papers will be selected. Participants without a paper will act as discussant at the workshop for one or two selected papers. Researchers, whose paper is rejected, may still be invited as discussant.

The invited participants will have a variety of disciplinary backgrounds such as Innovation Studies, Economics, Science & Technology Studies (including constructive and interactive technology assessment studies), Policy Studies (including studies of network governance,

learning and the impact of regulation), Organisation Studies (including studies focusing on management of structural change and leadership) and Practices Based Studies.

To stimulate 'fresh input' in the discussions a number of junior scientists (Ph.D students) will also be invited next to senior researchers.

In addition to disciplinary perspectives, we will seek participation from policy-makers and representative of cooperative and professional networks (app. 5) who will bring in their experiences and ways of framing insights.

Format of the Meeting

The format of the meeting is meant to stimulate in-depth discussion of various issues rather than having many presentations and only brief discussions. To achieve this, the key features are:

- Plenary sessions only.
- Intensive interactions among a limited number of participants (30-35). All participants will have an active role, either as paper authors or discussants or both. Participation is by invitation only on the basis of submitted abstracts (for researchers) or known expertise (for policy makers).
- All papers have to be written and will be distributed prior to the meeting.
- Papers are not presented at the meeting but expected read beforehand.
- Invited discussants will present comments on papers to kick off the discussions. Two discussants are invited for each paper.
- The meeting consists of two kinds of sessions: 1) paper sessions focussing on a theme; 2) 'harvesting' sessions without a paper submission. The latter sessions aim at teasing out lessons for governance and to define a further research agenda. They will summarise progress made at the conference and develop a clearer view on issues to discuss further. To kick off the discussion in the harvesting sessions, two persons will be invited beforehand to present their conclusions from the preceding sessions.

Local costs (hotel, subsistence) will be borne by the organisers. Funding applications to fund travel as well are still pending. Check website for progress on this issue.

Deadlines

Submission of abstract: 1 February 2010

Notification of acceptation: 1 March 2010

Full paper due: 15 May 2010

Abstracts

State name, affiliation, full address and e-mail
maximum 1,000 words

Abstracts should address issues and themes mentioned further below

Include: (1) analytical perspective and matters of enquiry, (2) empirical domain (3) main findings (4) discussion

Outputs

The workshop and its follow up will provide the following output:

- An international meeting supporting the development of a research-policy network;
- 15 papers;
- 30 contributions by discussants;
- Proceedings from two harvesting sessions;
- An edited book or a special issue of a scientific journal of the papers and discussions (provided that the quality of the contributions is sufficiently high);
- A policy report with the main findings of the workshop; under the terms of Dutch sponsorship the policy report will focus on animal production. If there is sufficient interest among participants a second version may be produced with a broader scope;
- Possible follow-up if there is sufficient interest: A Dutch workshop for policy makers and other strategic actors focussing on animal production.

Background – The system innovation challenge

Pathways towards sustainability

Over the past decade the transition towards sustainable agriculture has been a central theme in the work of many organisations, including government bodies, NGOs, professional organisations and research institutions. Various publications, including White Papers by the EU and different national governments, define future targets and objectives to improve sustainability in various subsectors like animal production, arable farming, or glasshouse horticulture. There are also growing concerns about the sustainable use of biomass for fuel, feed and fibres, which also became public issues in terms of ethical or economic relations regarding the multi-functionality of agriculture.

It has become clear that the development of our industrial societies has had serious negative effects. This is true for a variety of sectors including the agro-food system (*sensu largo*, that is including the production of food, feed, fuel and fibres). Despite the adoption of the notion of sustainable development by most governments as a basic policy principle, it is becoming increasingly clear that the achievement of a 'post-industrial' society will not necessarily result in a more sustainable society, i.e. a society that is characterised by a better balance between economic, social and ecological goals. Ensuring that any transition that might be taking place does lead to more sustainability is a major challenge for societies in general and for agro-food systems in particular. In this context the relations between agronomic sciences, agricultural technologies and public or private expectations are at stake. This leads to claims for "innovative innovation" concerning the purposes and ways of designing new technologies and practices or new practices in relation to existing techniques. In fact, these claims indicate a need for a shift in the governance of research and innovation to achieve a sustainable future.

Nevertheless, the transition to sustainable agro-food systems will not be an easy or straightforward one. One of the reasons for this is the extremely complicated nature of the required long term societal changes. Such a transition will require the adoption and diffusion of new technologies embedded in new economic, social, institutional and cultural relations.

Dynamics of Innovation as a scientific issue

Innovation is crucial for such a transition, which typically refers to technological change. Indeed, a variety of new technologies will be needed to meet the sustainability challenges in the various agricultural subsectors. Technological change, however, will not be enough. The enormous challenges ahead will also require new regulations, new behaviour (e.g. of consumers, farmers as well as many other stakeholders), cultural change, institutional change, and institutional 'hybridicity' (Allaire and Wolf, 2004). While some authors use the term 'system innovation' to denote such broad change processes (e.g. Elzen et al. 2004; Geels 2005), others develop the notion of innovative design (Lemasson, et al., 2006) in socio-economic orders or agro-food systems (Aggeri et Hatchuel, 2003). A specific example of the latter are participatory design and mediation activities in situation of change in R&D system of activities (Beguin & Cerf, 2009).

System innovations are multi-factor, multi-actor and multi-level (multi-scaled) and can only be understood in terms of historical co-evolutionary processes which link up these actors, factors and levels. These historical processes are shot through with uncertainty and are open-ended learning processes. Influencing such processes has proved to be difficult, but not impossible. To stimulate sustainable development, the challenge is to influence developments at an early stage, when irreversibilities have not yet set in and one can hope to sway the balance between desirable and undesirable developments.

Researches on system innovation, knowledge regimes and design practices in the agro-food sector can be considered as pivotal examples of what Gibbons et al. (1994) called a mode 2 type of knowledge production. In fact, it transcends traditional disciplinary science in two ways, viz. (1) it combines insights from various disciplines and (2) knowledge is generated in a combined effort between scientists and stakeholders from

the domain under investigation. But, after the debates about the Mode 1 – Mode 2 model (Pestre, 2003), researchers and practitioners are aware that more knowledge about those dynamics is needed and more expertise is required to get further. This is why a joint effort between European researchers, policy makers and strategic actors of the agro-food sector is of crucial importance to reflect, compare and design elements of the roadmap towards sustainable agriculture.

Rationale of the international workshop

The key starting point for the meeting is that technical change and societal change are highly related, forming a seamless web (Hughes 1986). The position taken is that any transition to sustainability will imply a high level of social-cultural change coupled with a similar high level of technological change and, correlatively, many global or local social debates about the ways of designing the future and the realization of system innovation. In a general sense, system innovations are defined as major changes in the way societal functions such as food production and consumption, energy use and supply, transportation, etc., are fulfilled. Such changes typically involve a co-evolution of a number of related elements, including technology, infrastructures, symbolic meanings, governance structures, scientific knowledge, industry and related institutions etc.

The need for system innovations that lead to more sustainable development paths has been recognised in various policy networks and research programmes. This is not only relevant for the agro-food system but for a variety of other systems as well, e.g. the energy and transportation systems. Over the past decade, this has rendered a host of insights in innovation processes as well as practical experiences on attempts to stimulate system innovation towards sustainability.

It appears, however, that there is a considerable mismatch between general insights developed in research and the more detailed practical issues that are at stake in concrete projects and programmes. As a result, it is far from clear how to set up projects and programmes to contribute to system innovation towards sustainability. One reason, sourced by historical studies, is that system innovations can take a long time (of the order of decades) and rarely result from a single new development but from a long process of combination and re-combination of novelties from different sources. This calls for a comprehensive and reflexive understanding of shifts in knowledge regimes and design practices. This workshop seeks to lay the foundations for such an endeavour, in terms of analysis as well as in terms of governance.

References

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- Pestre D., (2003). "Regimes of knowledge production in society: towards amore political and social reading", *Minerva*, 41:245-261.

Issues and themes to be addressed during the meeting

Issues

The Scientific meeting will address *two main issues* and cover *several agricultural subsectors* for emerging system innovations in the agro-food systems. The two issues are:

1. The issue of *analysis*: Analysing the dynamics in agro-food systems, including system innovations, knowledge regimes and design practices that are currently ongoing.
2. The issue of *governance*: Understanding how government agencies and other actors can organize themselves and what they can do to encourage and influence such system innovations, knowledge regimes and design settings in order to make the agro-food systems more sustainable.

The subsectors include (but are not limited to):

1. animal production;
2. arable farming;
3. glasshouse horticulture;
4. biomass production for fuel and fibre.

Key themes

Contributions should address one or more of these themes and the underlying questions. Either one or both of the two main issues indicated above (analysis and governance) should be addressed.

Understanding system innovations in the agro-food sector

- How can system innovations in the agro-food sector be characterised?
- What is the role of various actors in different phases?
- How are barriers associated with system innovations overcome?
- How can local initiatives disrupt existing structures?
- What is the role of changes in consumption preferences in system innovations?

Knowledge regimes in transition

- What is the resilience of scientific knowledge production?
- How do the 'matters of concern' about sustainability redefine the relation between scientific production and innovation?
- What are the types of problems that researchers, engineers and extensionists have to face to address sustainability?

Influencing Transitions in the agro-food systems

- What role can science and research play in influencing transitions?
- What kinds of interventions can governmental agencies most effectively make to 'manage' system innovations?
- What is the role of the public versus the private sector?

Design Practices in transition regimes

- What is the role of 'system builders' in different phases?
- How to shape and implement participatory design and *settings* of collective experiment?
- What are the frames and politics of reflective practitioners in situations of change?