

Have AKIS clients participate with their problems

Linking your results with AKIS – Agricultural Knowledge and Innovation Systems in Transition

Based on findings from the EU SCAR collaborative working group
And insights in work-in-progress

CORE Organics, Amsterdam, May 2013,

Krijn J. Poppe



Content of the presentation

- Background of SCAR and the Collaborative Working Group
- Some theoretical notions on Innovation Systems, AKIS and social innovation
- Conclusions from the collaborative working group, illustrated by examples from the member states
- Insight in current work-in-progress

Background of SCAR and the CWG

- Standing Committee on Agricultural Research (1974, renewed 2005)
- Representatives of member states that advise the European Commission and Member States on coordination of agricultural research
- Since 2005: coordination in the European Research Area: EU + candidate and associated countries (in total 37 countries)
- 2006, Krems (Austria): “ [SCAR to] include questions of advisory services, education, training and innovation in their discussions”

Mandate of the SCAR – CWG on AKIS

- 2008 Communication: “the Commission intends to make use of SCAR to identify agricultural knowledge structures in each Member State, with a view to eventually creating a corresponding CWG”
- 2009 France and the Netherlands volunteered to set up a CWG
- Chaired by Pascal Bergeret and Krijn Poppe

The issue

- 1st SCAR foresight (2007): the mounting challenges facing the agri-food and rural sectors in Europe calls for a review of the links between knowledge production and its use to foster innovation

- 2nd SCAR foresight: rather crude light on the current state of Agricultural Knowledge Systems in Europe:

“currently unable to absorb and internalise the fundamental structural and systemic shifts that have occurred. The remaining publicly funded AKIS appear to be locked into old paradigms based on linear approaches and conventional assumptions.”

In the mean time a changing policy context: the financial and food crises, EU 2020 strategy: “Smart, sustainable, inclusive growth”, European Innovation partnership, CAP-post 2013

Increased relevance in EU policy:

- Europe 2020 strategy: growth strategy for the coming decade. It wants the EU to become *a smart, sustainable and inclusive economy*.
- The Innovation Union is one of the seven flagship initiatives of the Europe 2020 strategy:
 - turn Europe into a world-class science performer;
 - remove obstacles to innovation
 - revolutionise the way the public and private sectors work together, notably through Innovation Partnerships
 - Within the Innovation Union, Horizon 2020 is the financial instrument 2014 to 2020, proposed budget €80 billion (the EU's new programme for research and innovation)
- CAP post 2013: Reinforce the role of the Farm Advisory Service (FAS) and to create a 'European Innovation Partnership (EIP) for agricultural productivity and sustainability'.

Part II: Theoretical notions

- For economists and others: 2 views on innovation policy
- AKIS – concepts from the reflection paper
- Social Innovation – concepts from the reflection paper

Two views on innovation policy (Smits et al, 2010)

	Mainstream macro-economics	Institutional and evolutionary economics: Systems of Innovation
Main assumptions	<ul style="list-style-type: none"> - Equilibrium - Perfect information 	<ul style="list-style-type: none"> - Dis-equilibrium - Asymmetric information
Focus	<ul style="list-style-type: none"> - Allocation of resources for invention - Individuals 	<ul style="list-style-type: none"> - Interaction in innovation processes - Networks and frame conditions
Main policy	Science / research policy	Innovation policy
Main rationale	Market failure	Systemic problems
Government intervenes to	<ul style="list-style-type: none"> - provide public goods - mitigate externalities - reduce barriers to entry - eliminate inefficient market structures 	<ul style="list-style-type: none"> - solve problems in the system - facilitate creation new systems - facilitate transition and avoid lock-in - induce changes in the supporting structure for innovation: create institutions and support networking
main strengths of policies designed under this paradigm	<ul style="list-style-type: none"> - clarity and simplicity - analysis based on long term trends of science-based indicators 	<ul style="list-style-type: none"> - context specific - involvement of all policies related to innovation - holistic approach to innovation
main weaknesses of policies designed under this paradigm	<ul style="list-style-type: none"> - linear model of innovation (institutional) framework conditions are not explicitly considered 	<ul style="list-style-type: none"> - difficult to implement - lack of indicators for analysis and evaluation of policy

Knowledge & Innovation System: 7 functions



1. Knowledge development and diffusion
2. Influence on direction of search and identification of opportunities
3. Entrepreneurial experimentation and management of risk and uncertainty
4. Market formation
5. Resource mobilisation
6. Legitimation
7. Development of positive externalities

(c) M. Hekkert et al.

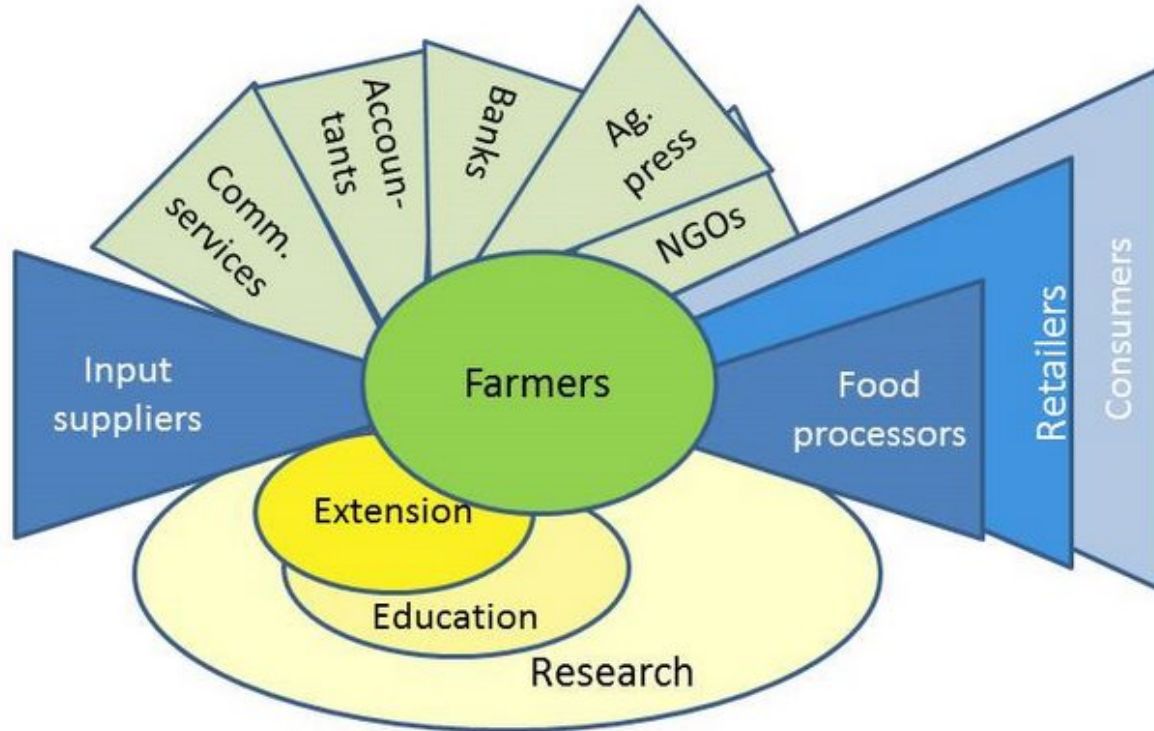
AKIS – terminology

- AKS concept originated in 1960s, driven by an interventionist agricultural policy that sought to coordinate knowledge and innovation transfer in order to accelerate agricultural modernization.
- In many countries: strong integration of public research, education and extension bodies, often under the control of the Ministry of Agriculture
- 1970s: “agricultural knowledge and *information* systems” (AKIS) in policy discourses (OECD, FAO). Later: agricultural knowledge and *innovation* systems

Drivers that eroded AKS / moved to AKIS

- Research, extension and education have undergone a deep restructuring, transformed by the trend towards liberalization
- Policy agenda: increasing concern over the environmental impact of industrial agriculture, the quality of life of rural populations, rural employment and the need to support the positive externalities linked to agricultural production.
- The linear model of innovation has progressively been replaced by a participatory or 'side by side' network approach, in which innovation is 'co-produced' through interactions between all stakeholders in the food chain (and especially for 2nd order change)
- The growing disconnection between farmers' knowledge and research and extension systems.

The FOOD CHAIN PLAYS A ROLE TOO



Learning and Innovation Networks

- Thematically-focused learning networks that are made up of different actors, within and outside the formal AKS.
- Members can include farmers, extension workers, researchers, government representatives and other stakeholders (Rudman, 2010).
- The emphasis is on the process of generating learning and innovation through interactions between the involved actors.
- LINSAs: LIN for Sustainable Agriculture
- The difference between AKS and LINSAs is connected to how knowledge is conceptualized: AKS sees knowledge as a “stock to be transferred”, whereas LINSAs emphasizes the processes needed to make knowledge useful and applicable to other actors.



SOLINSA

Support of Learning and Innovation
Networks for Sustainable Agriculture

Agriculture Knowledge Systems In Transition:
Towards a more effective and efficient support of Learning
and Innovation Networks for Sustainable Agriculture

solinsa.net



Planned results:

- **Tools and methods** for practitioners that are involved in learning and innovation in agriculture
- Recommendations on **policy instruments and financial arrangements** that support learning and innovation for sustainable agriculture
- **Concepts to reflect** on learning and innovation processes as drivers of transition to sustainable rural development

More information: www.solinsa.net; **contact:** heidrun.moschitz@fibl.org

Social Innovation

- The concept of social innovation originates in critiques of traditional innovation theory. By calling for social innovation, new theories point at the need to take the social mechanisms of innovation into account (*social mechanisms of innovation*)
- In the context of rural development, social innovation refers to the (social) objectives of innovation – that is those changes in the social fabric of rural societies, that are perceived as necessary and desirable in order to strengthening rural societies and addressing the sustainability challenge (*social inclusion / equity: the innovation of society as well as the social responsibility of innovations*)

Part III: Findings and recommendations of the collaborative working group



AKIS are quite different between countries / regions / sectors – e.g. extension

- Mainly privatized systems (e.g.: NL, some states in Germany) where the funding mainly comes from direct payments from farmers, but coupled with high state funding for research
- Co-management between farmer organizations and the state (e.g. France, Finland and some states in Germany), with public funding, partial payments by farmers and farmer organizations.
- Semi-state management (e.g. Teagasc in Ireland which has a board with representatives from the state, industry and farmer organizations);
- Management by the state through regional organizations (e.g. Switzerland, Italy and Finland).

Some countries have restructured their AKIS considerably

- NL: Privatising of state extension service, leading to competition; merge of applied research and university into Wageningen UR (a ‘third generation university’ with innovation in its mission), learning networks to address systemic coordination issues
- FR: Pole de competitivite – regional clustering with special projects to support consortia
- DK: merged applied research into regional universities.
- Hungary: Farm Advisory System in addition to Farm Information Service (chambers of agriculture) and Network of Village Agronomists (and agri-business)
- Austria: announced increased collaboration between institutes

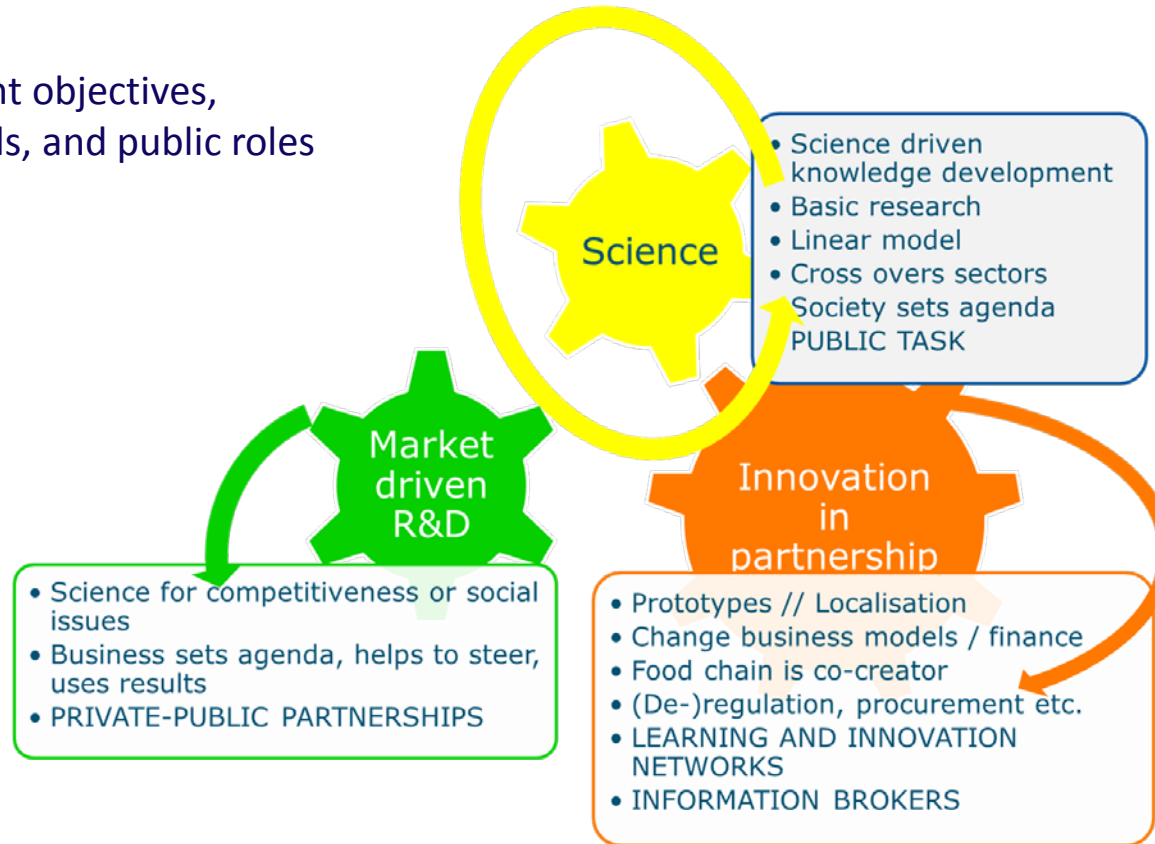
AKIS components are governed by quite different incentives

- interaction between the elements is crucial
- but elements are driven by different incentives, e.g.
 - research: publications, citations, ‘excellence’
 - education: funding based on student numbers
 - extension: payments by farmers / vouchers / subsidized
- Need for multi- / transdisciplinary approach often mentioned
- competition impedes cooperation between actors

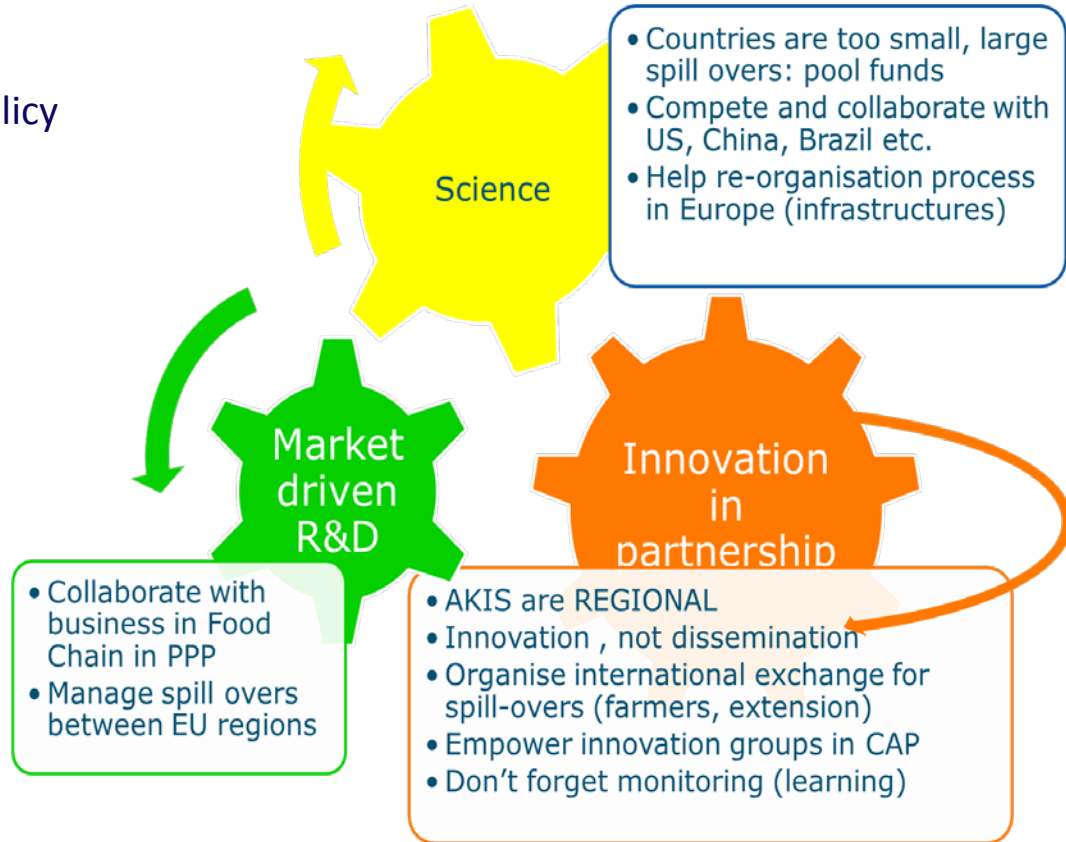
Science versus Innovation driven

Aspect	Science driven research	Innovation driven research
Incentive to program a topic	Emerging science that can contribute to solving a societal issue (or a scientific question)	An issue / problem in society that can be solved by new research, or a new idea to solve an existing issue
Participation of users	In demonstration phase / via research dissemination	In agenda setting, defining the problem and during the research process
Quality criteria	Scientific quality	Relevance (for the sector or a region)
Focus	Research organisations	Networks of producers and users of knowledge
Diffusion model	Linear model	System (network) approach
Type of government policy	Science / Research Policy	Innovation Policy
Economic line of thinking (see table 2.1)	Macro-economics	Systems of innovation
Finance	To a large extent public money: more speculative and large spill over effects	Public-private partnerships very possible / advantageous
The role of the EU	Efficiency of scale (member states often too small), smart specialisation between member states, create European research market with harmonisation of hard- and soft infrastructures	Stimulate interaction and learning in Europe between national/regional AKIS. Enable in CAP innovation by networks with farmers
Typical EU examples	Horizon 2020, FP7, ERC, some ERAnets, Joint Programming Initiatives	CAP: European Innovation Partnership, LEADER, European Technology Platforms, EIPs, some ERAnets
Type of research	Interdisciplinary with absorption capacity in AKIS (to work with material science, ICT, chemistry etc.).	Transdisciplinary and translational with close interactions.

Different objectives,
methods, and public roles



Role of EU policy



Work in progress

- Proposals by EU for European Innovation Partnership
- Issues currently discussed in collaborative working group

Connecting Horizon 2020 and Rural Development



Steering Board

European Innovation Partnership
,Agricultural Productivity and Sustainability

Research & Innovation Framework:

- Research projects
- Multi-actor projects
- Pilot project clusters
- Innovation brokers
- On-farm experiments

EIP Network

Rural Development Network Steering Group

Standing Committee on Agricultural Research (SCAR)

ERDF, ERA-Nets, JPIs, etc.

Horizon 2020 Programme Committee

Rural Development Committee

Rural Development Policy:

- Knowledge transfer
- Cooperation
- Pilot projects
- Demonstration
- Advisory services
- Investment

Member States Programmes

Operational Groups

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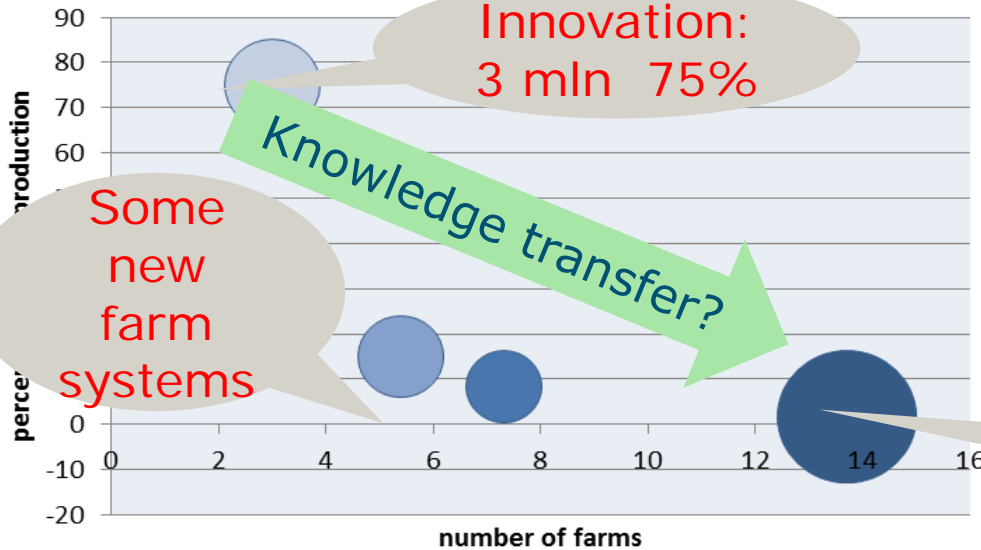
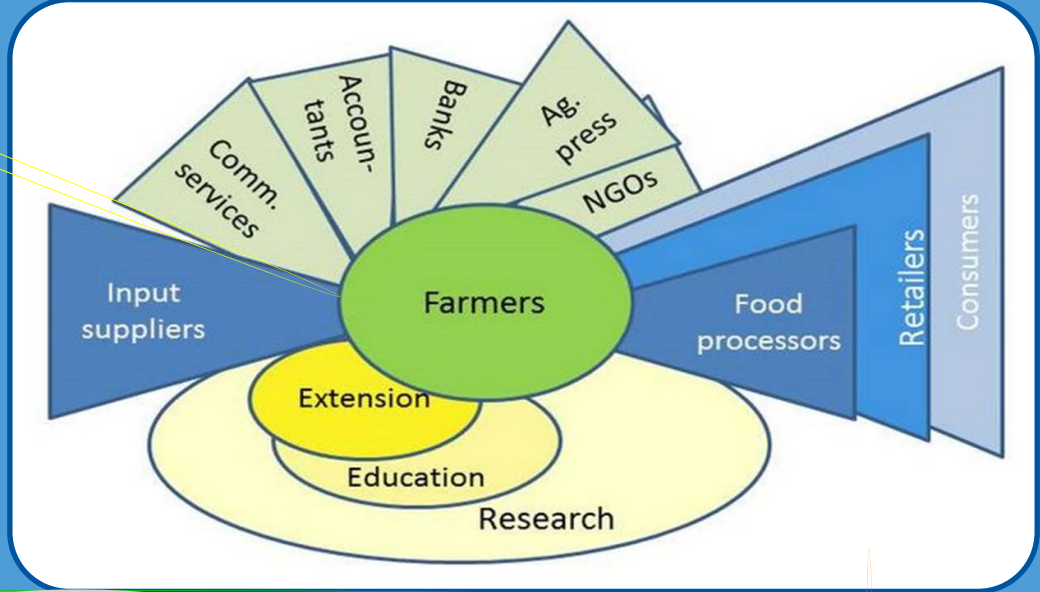
Operational Groups

Farmers · Advisers · Enterprises · Scientists · NGOs

TARGET GROUPS

Science

Market driven R&D



Innovation:
3 mln 75%

Some new farm systems

Knowledge transfer?

Innovation in partnership

Social Innovation:
6 mln 1.6%

Interactive innovation model in the EIP

- The innovation model under the agricultural EIP goes far beyond speeding up transfer from laboratory to practice through diffusion of new scientific knowledge (referred to as a "linear innovation model").
- The EIP adheres to the "interactive innovation model" which focuses on forming partnerships - using bottom-up approaches and linking farmers, advisors, researchers, businesses, and other actors in **Operational Groups**.
- This knowledge "exchange" will generate new insights and ideas and mould existing tacit knowledge into focused solutions. Such an approach will stimulate innovation from all sides and will help to target the research agenda.

Network Function of the EIP

- Interlinking innovation-related actions
- Ensuring an effective flow of information
- Exchange on best practice
- Systematic feedback about practice needs
- Exchange with ETPs, ERA-NETs, JPIs etc.
- Interface function of SCAR

Current issues in CWG - AKIS

- What is exactly an operational group?
- Are innovations in innovation policy possible (e.g. inducement prizes, SBIR)
- Which themes in innovation (first)?
- Cross border aspects
- Support of innovation processes by ICT
- Incentivize extension, research and education

What does it mean for your ERAnet?

- Do you encourage projects in science, R&D or innovation – and treat them differently?
- Linking your project results or their research agendas ?
- How do you manage spill-overs between countries?
- Do you require your projects to link up with innovation networks?
- Do they include organic agribusiness and do they co-finance?
- Do you encourage the use of social media?



THE ART OF ORGANIC AGRICULTURE

Have AKIS clients participate with their problems

Thank you for your attention

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Linked in 

www.wageningenur.nl/lei

See the website of
SCAR (European Commission)