Agricultural Knowledge and Innovation Systems (AKIS) in the EU – what is their relevance for research and practice?

Transfer of Knowledge and Innovations in Agriculture of S-E European Countries | 28th Conference of Agric & Food Industries | Sarajevo, 27th – 29th September 17

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Key statements

- **AKIS dialectics:** there is no *real* Agricultural Knowledge and Innovation System (AKIS) versus there are *many real* AKISs

- The **diversity of AKIS** in the EU is translated by a pluralism of agricultural advisory service (AAS) providers

- **AAS pluralism** bears both potentials and challenges for knowledge users, advisors and for the governance of service provision

- New approaches towards **agricultural innovation within the AKIS** add to advisors‘ roles and functions
Structure of the presentation

(1) Why and how is the AKIS relevant?
   • Concepts, perspectives, empirical evidence

(2) Particular actors: agricultural advisory service (AAS) providers
   • features, indicators, empirical evidence

(3) How to does the AKIS concept support agricultural innovation?
   • Multitude of functions, future role(s) of agricultural advisors
What is an agricultural knowledge and innovation system?

- What do you think of when you imagine an AKIS? Which pictures or words come into your mind?
What is an agricultural knowledge and innovation system (I)?

- A system
- An ecosystem
- A farming system

(Darnhofer et al 2012)
What is an agricultural knowledge and innovation system (II)?

(Rivera et al 2005, adapted in EU SCAR 2012)
An agricultural knowledge and innovation system is ....

• “the set of agricultural institutions, organizations, persons and their linkages and interactions,

• engaged in the generation, transformation, transmission, storage, retrieval, regulation, consolidation, dissemination, diffusion and utilization of knowledge and information,

• with the purpose of working synergetically to support opinion formation, decision making, problem solving and/or innovation in a given sector, branch, discipline or other domain”

(Röling 1988)
An agricultural knowledge and innovation system is ....

• “a network of organizations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organization into economic use, together with the institutions and policies that affect the way different agents interact, share, access, exchange and use knowledge”

(Leeuwis with van den Ban 2004)
Three different concepts for the AKIS

**Infrastructural view**
- Assess knowledge infrastructures:

**Process view**
- Understand change: networking, learning, initiating change, improving practices and products, innovating …

**Functional view**
- Normativity: what functions should be fulfilled by a performative AKIS?

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(Knierim et al. 2015)

(EUFRAS)

(Klerkx et al. 2012)

(INKA BB, Foos)

(Nagel 1979)

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The AKIS concept in PRO AKIS

We used the **Infrastructural view** in order to create an overview for the European member states

- AKIS diagrams and characterisations were elaborated and
- Refined in dialogues with AKIS experts
- Exchange with stakeholders in from all EU countries in 3 workshops
- Posters and reports are available at www.proakis.eu
The infrastructural view – examples of AKIS diagrams (I)

The Bulgarian AKIS (2013)

- Strong public sector
- AAS integrated with agric administration
- A certain range of private sector bodies and farmer-based organisations
- That are not well interconnected

Legend:
- Strong formal relationship
- Information/knowledge flow among organisations at informal or weak formal level
- Information/knowledge flows to the farmers

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The infrastructural view – examples of AKIS diagrams (II)

The French AKIS (2013)

- Dominance of farmer-based organisations
- Active farmers
- Private and public actors at distance
- Multi-level governance in the AKIS

The image depicts a network of entities involved in agricultural knowledge and innovation systems (AKIS) with various nodes such as schools, colleges, INRA, IRSTEA, Chambers of agriculture, and various organizations like FNSEA, CR, CP, JA, Other FBOs, and ONVAR. The diagram illustrates the flow of services and the involvement of farmers at different levels, with connections to public and private actors.
The infrastructural view – more examples

The Dutch example = fragmented

The Danish example = integrated

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An agricultural knowledge and innovation system is ....

(1) .... a mental construct, an idea about a number of elements that work together or interfere in order to provide information to farmers

(2) ...... an agreement; elements and boundaries are negotiated, contested and resettled; they can change and evolve in the course of time

(3) .... a useful diagnosis tool for policy makers and decision-making stakeholders in the agri sector
From AKIS to agric advisory services …

- To support problem solving, change and innovation: what happens within the AKIS, among the actors?
- In the past, agricultural advisory services were key for the operationalisation and the dissemination of knowledge – what is the state of knowledge with regard to this group of actors?
- Empirically, we observe organisational pluralism of providers due to privatisation, commercialisation, decentralisation
- There is variation of key indicators, e.g.
  - number of clients per organisation, per advisor;
  - Back-office/front-office ration
  - share of one-to-one advice
  - main target groups and challenges ahead
## Dominant Agricultural Advisory Service (AAS) providers in the EU

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<th>Type of dominant advisory service provider</th>
<th>EU Countries</th>
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<td>Public organisation (9)</td>
<td>Bulgaria, Ireland, Slovakia*, Latvia*, Greece, Poland*, Hungary*, Romania*</td>
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<tr>
<td>Private organisation</td>
<td>Estonia*, The Netherlands</td>
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<td>Farmer-based organisation (10)</td>
<td>Austria*, France*, Sweden, Belgium, Lithuania*, Portugal, Denmark, Slovenia*, Finland, Spain</td>
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<tr>
<td>Public / Private organisation</td>
<td>Czech Republic*, United Kingdom</td>
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<tr>
<td>Public / Private/ FBO</td>
<td>Germany*, Italy, Malta</td>
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<tr>
<td>Public / FBO</td>
<td>Luxembourg*</td>
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(Knierim et al 2017)
Pluralism of AAS providers in terms of staff size (selected EU member states)

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(Knierim et al 2017)
Pluralism of AAS providers – selected indicators

- **Farmer clients per advisor**
  - Differences with respect to type of provider:
    - Public sector > 90 farmers/advisor (median, UK, I, DE)
    - Private sector < 50 farmers/advisor (median, (DE, I, LT, SE, UK)
    - FBO between 50 and 80 farmers/advisor (DK, DE, I, SE)

- **Back-office / front-office ratio**
  - Number of staff supporting advisors with farmer contact
    - In app 25% of private providers there is no back-office staff
    - In app 75% of private providers there ratio is less than 2 to 3
    - In app 50% of public providers, the ratio is 1:1 and more

- **One-to-one Advice**
  - Share of one-to-one advisory services on total time
    - More than 50% of private providers with (median) 90% one-to-one advice in UK, Italy and Ireland
    - Public providers in Germany, Italy, UK with (median) < 65%
Pluralism of AAS providers – target groups of advisory services (DE)

Germany

- Large farms
- Medium farms
- Small farms
- Young farmers
- Women
- Part-time farmers
- Employees

- FBO
- NGO
- Private
- Public

(Knierim et al 2017)
Summary on AAS diversity within the AKIS

Farmers are served by increasingly pluralistic providers – cui bono?

(1) Private AAS providers are now common across the EU

(2) Medium and large-scale farmers are served by (almost) all types while other groups get little or even no targeted attention (female farmers, farm workers etc.)

(3) Pluralism of providers needs country-specific governance responses
Enhancing innovation within the AKIS

EIP Agri - European Innovation Partnership
‘Agricultural productivity and sustainability’

- it is a translation of the AKIS process concept, a focus on learning and voluntary change processes driven by a group of actors aiming at improving an economically relevant situation in agriculture

- supports the creation of innovation networks = operational groups (RD policy);

- supports the multi-actor approach (horizon 2020)

➢ How can **AAS providers or advisors** become driving elements within operational groups? What services are supportive to innovations?
Objectives of Innovation Research in Agriculture – the AgriSpin example

The overall aim: to improve innovation intermediary practices and support systems in European agriculture

Specifically, there is a need to improve and valorise European agriculture innovation systems by

1) Identifying, examining and cross comparing successful/best-fit innovation support practices across Europe
2) Analyzing and better understanding the role of innovation intermediaries and support services within agriculture related innovation processes
3) Creating and strengthening effective networks among AKIS stakeholders at European level, and
4) Facilitating a cross-learning process towards supporting innovation processes, scaling up identified best-fit practices and strengthening innovation capacities of stakeholders.
What innovation support services (ISS)?
Findings from AgriSpin:

- Knowledge creation, access and exchange
- Advisory, consultancy and backstopping at farm and at organisations’ level
- Capacity building and documenting learning
- Demand articulation
- Networking, facilitation and brokerage
- Access to resources
- Institutional support for niche innovation and scaling mechanisms’ stimulation

(Koutsouris, 2014; Mathe et al. 2016: p 6)
Traditional and new advisory service functions to support innovations

- Knowledge creation, access and exchange
- Advisory, consultancy and backstopping at farm level
- Advisory, consultancy and backstopping at organization level
- Capacity building and documenting learning
- Demand articulation
- Networking, facilitation and brokerage
- Access to resources
- Institutional support for niche innovation and scaling mechanisms

The 'networking, facilitation and brokerage function' requires

✓ Increased attention for the coexistence of cooperative, competitive and co-operative service providers and the need to identify and realise complementarities

✓ the diagnosis of the innovation type and scale – in order to develop 'best fit' support interventions

✓ Organisational openness as ISS can be provided by (practically) all types of services providers
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Thanks for your attention!
References


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Klerkx L., van Mierlo B., Leeuwis C (2012), Evolution of systems approaches to agricultural innovation: concepts, analysis and interventions, Chapter 20, 457-482


AgriSpin: www.agrispin.eu
PRO AKIS: www.proakis.eu

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