

*100th anniversary of Czech agri-economic research:
Innovation and competitiveness of the EU agrarian sector*

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***Research and Technological Transfer:
Unused Potential for Development and
Growth of Agro-food Sector in EU NMS?***

Emil Erjavec

University in Ljubljana
***Biotechnical* faculty**



R&D new old issue for NMS?



- ▶ **Profound changes in the agriculture:**
 - ▶ Stronger competitive pressures
 - ▶ The end of direct public market interventions
 - ▶ Production and price volatility
 - ▶ New challenges in technology
- ▶ **New reading and understanding of R&D!**
 - ▶ ***Less attention to this issue in NMS?***
 - ▶ Thesis: the field should be discovered again.
- ▶ **Less knowledge and analysis for NMS:**
 - ▶ conceptual personal approach - reflexion

Issues and content



A. Do we need public support for *R&D* and *knowledge transfer* in agriculture?

- ▶ **Agricultural Knowledge and Innovation System (AKIS)**
- ▶ Theoretical frame, lessons from OECD/FAO and trends from NMS perspectives

B. How efficient is AKIS in NMS?

- ▶ Historical patterns, needs, actual institutional set up, challenges

C. How *to improve* (not idealistic) situation in the NSM?

- ▶ The questions about the future role of AKIS, research and extension, agricultural economics

Theory and praxis I



- ▶ **Productivity growth**
 - ▶ and efficient resources management are still essential for **development** and **competitiveness** of agriculture.
 - ▶ Technological change and efficiency concepts,
 - ▶ but also environmental concerns, public and organisational reforms concept.
- ▶ Development is based on **innovation** and **knowledge transfer**:
 - ▶ **AKIS: Agricultural knowledge and innovation system.**
- ▶ AKIS elements:
 - ▶ **Research, education, extension and support system.**

Theory and praxis II



- ▶ ***Efficient AKIS is one of the drivers of development.***
 - ▶ Cases: western agriculture, Green revolution...
- ▶ **Public – private** interest and organisation of AKIS.
 - ▶ Different combinations. Growing importance of private...,
- ▶ Still strong **public involvement**:
 - ▶ Due to fragmented agricultural structures, needs to adopt to the regional natural conditions, strong public concerns.
- ▶ Efficient AKIS requests public in:
 - ▶ Funding, Concept and strategies
 - ▶ Infrastructure, Stability
 - ▶ Institutional innovation and reforms,

No one-fit approach



- ▶ ***Different successful AKIS structures & concepts. Critical success factors:***
- ▶ ***Supply:***
 - ▶ Intensive support by public and/or private institutions
 - ▶ Professionalism and high quality work
 - ▶ Integral and development (innovation) oriented approach.
 - ▶ Internationally recognised and well organised research.
 - ▶ Efficient knowledge transfer systems.
 - ▶ Strong support and involvement from the public bodies.
- ▶ ***Demand driven***
 - ▶ Demand by market and production oriented agriculture and agro-food sector.

Trends in AKIS



▶ **Positive:**

- ▶ New **public recognition** of AKIS.
 - ▶ Global and European wide discovery.
- ▶ Still stronger involvement of public, with growing agro-business interest
 - ▶ Farmers?
- ▶ Standing **reforms of institutional set up**
 - ▶ adjustments, less and less public involvement
- ▶ New challenges approach
 - ▶ new technologies, climate change, ...

Trends in AKIS



▶ **Negative:**

- ▶ Part o research is losing connections to development dimension
 - ▶ Critical for smaller and small farmers economies !
- ▶ Decrease of public funding not replaced in all cases by private sources.
- ▶ Innovation to strongly embodied into intellectual rights systems of global companies.
 - ▶ Increasing price for innovation?
 - ▶ Problems for les successful economies and farmers.
 - ▶ Not adopted solutions to the regional circumstances.
- ▶ Negative public acceptance for some type of innovations.

B. Situation in NMS

Historical patterns



▶ **CEEC AKIS before transition**

- ▶ a lot of attention, different by countries,

▶ **Characteristics:**

- ▶ Production orientation with strong state support and ideological connotation.
- ▶ Development related to own inputs and processing industry;
- ▶ Discrimination of family farms. Development based on collective farming. Big projects approach.
- ▶ Relatively good education.
- ▶ State research quite developed (slowly losing battle with West).
- ▶ Extension not in classical sense. However, also some good cases.

▶ ***Specific, but partially efficient AKIS in place!***

B. Situation in NMS

Transition impacts?



▶ **AKIS after transition:**

- ▶ Import of technological transfer over big multi-national firms
 - ▶ the majority of technological change
 - ▶ adoption to the local needs?
- ▶ Research is moving to the more science and less development orientation
- ▶ Extension still weak, especially orientation to small and medium family farmers.
- ▶ Institutional organisation of AKIS not reformed to the needs
 - ▶ elements from the old time, not efficient new established
- ▶ Relatively poor public support for AKIS.

B. Situation in NMS

Needs for stronger AKIS



- ▶ **Expected agricultural growth in CEEC after transition and accession is only partially present!**
 - ▶ The yields are still behind the Western agriculture, resources are not used efficiently. Significant share of resources not used (especially in Eastern part of NMS!).
 - ▶ More development in agriculture based on big enterprises.
 - ▶ Transfer easier in plant in comparison with the livestock production.
- ▶ **The reasons for stagnation in some agriculture is also in weaknesses of AKIS!**
 - ▶ Also other sources of the problems, less attention to agriculture, wrong signals by increasing subsidies.
 - ▶ Less attention for AKIS in policy making process. Political pragmatism. Farmers organisation not aware of importance of AKIS!
 - ▶ Private initiative itself less efficient for small farmers structures..

C. Recommendations

AKIS should be adjusted?



- ▶ **Yes, new attention and approach for the AKIS**
 - ▶ Institutional innovation and adjustments necessary
 - ▶ Standing review of situation is missing. Rigid structures.
 - ▶ Reform of institutions is necessary.
 - ▶ Move to integral approach of the AKIS.
 - ▶ With new roles of education, research and extension
 - ▶ Increase of funding (use new rural development funds).
- ▶ ***Who is responsible for development?***
 - ▶ Partnership: policy makers – administration – academician – business – extensions
 - ▶ National council for development?
- ▶ ***Instead of recommendations – the list of question...***

C. Recommendations

Education - issues



- ▶ **Are the secondary schools and colleges (professional education) „making“ new farmers?**
 - ▶ Oversupply of schools and programmes?
 - ▶ Undersupply of good schools and adjusted programmes?
 - ▶ „Making workers or businessmen?“
- ▶ **Are universities „making“ new agricultural elite for innovation and knowledge transfer?**
 - ▶ Oversupply of universities and programmes?
 - ▶ Which profile adopted to the new AKIS?

C. Recommendations

Research - issues



- ▶ **What is the real contribution of the agricultural universities and institutes to the development or to new knowledge in general?**
 - ▶ How to find good balance between basic and applied research?
 - ▶ How to improve the excellence of institutions?
 - ▶ Do we need so many institutions? Bring them to one, more integral system?
 - ▶ How to get international recognition of institutions?
- ▶ **How to stimulate development with the public-private target research?**
 - ▶ How to stimulate governments to take agricultural research and AKIS as important issue?

C. Recommendations

Extension - issues



- ▶ **How to organise efficient extension service?**
 - ▶ Public/privat relations. How combine?
 - ▶ Is one extension system in country appropriate solution?
 - ▶ Quality of the services is decisive!
- ▶ **Do we need specialist or generalist in extension?**
- ▶ **Which connections with the research and farmers?**
 - ▶ Directly connected with research organisation?
 - ▶ A part of farmers organisations?
 - ▶ How to bring the people and institutions to cooperate?
 - ▶ AKIS specific networks? Support by new RD?
- ▶ ***How bring the international knowledge to the farming system?***

C. Recommendations

Agricultural economics & AKIS?



- ▶ **AgEconomics is a important part of AKIS!**
 - ▶ Socio-economic impacts, economic evaluation,
 - ▶ Public concerns and reforms.
- ▶ ***Business level (AKIS):***
 - ▶ Business orientation and economic views on innovations
 - ▶ Business planning and marketing promotion
 - ▶ Good education and practical orientation
- ▶ **Policy level (AKIS):**
 - ▶ Monitoring and impact assessments
 - ▶ Reform structures and proposal
 - ▶ Socio-economic relations