The state of the agricultural extension in the V4 states and its future development dimensions

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Abstract
Agricultural Extension in Visegrad group since 1990, in significant way had supported the transition of agriculture, as well as its individual members, accession to the European Union. Its institutional capacity building started immediately after political, economic and social changes. Under the impact of the EU accession the systems have been reorganised in 2007, in order to meet EU requirements and adaptation on the cross compliance. With implementation of agricultural extension has been connected great expectations, however there are still in some countries discrepancies which create the barrier for well-functioning and effective institutions which would be able in significant way to ensure the transfer of innovation, to support the trends of growth in the sector and which would be able to involve in dynamic way the all actors into the system’s operation. The submitted paper deals with development dimensions of the agricultural extension in the V-4 states, with its main challenges, as well as with comparison of individual V-4 countries among themselves. There are also submitted proposals on the future re-orientation and required prerequisites for more dynamic and intensive development.

Keywords: advisor, agricultural extension, farmer, innovation, knowledge

JEL Classification: E240, O180

1. Introduction
Agricultural extension and advisory services are central to achieving sustainable and competitive productivity growth in the farming communities. By facilitating farmer’s access to information, such services can help to reduce the gap between potential and actual yields and improve farmer’s management skills.

Agricultural knowledge and information system (AKIS) indicates a system that links people and institutions to promote mutual learning and generate, share, and utilize agriculture related technology, knowledge and information. The system integrates farmers, agricultural educators, researchers, and advisors to harness knowledge and information from various sources for improved livelihoods. (FAO/World Bank, 2000)

Roling (2007), defined AKIS as set of agricultural organizations and/or persons, and the links and interaction between them, engaged in such processes as the generation, transformation, transmission, storage, retrieval, integration, diffusion and utilization of knowledge and information in given country’s agriculture.

The AKIS is in each country different, influenced by legislation, agricultural research, advisory institutions, structure and integration of education systems, the financial support, farmer’s needs and their expectations, as well as by the production and organizational characteristics of the individual and commercial farms. Furthermore, the diversity of the advisory system is given by historical continuities and economic development of the
concerned country. While, the progressive development of the number of countries across the European Union (EU) is given by the growing innovations and effectively functioning extensions system, has to be acknowledged that the development of agricultural system in V-4 countries never achieved the required level and only partially supports the transition of progressive knowledge and good experience into the farming practices. In general, it is possible to notice many similarities in AKIS consistency. In the majority of countries the public sector is represented in AKIS as a supplier of information, funding and advisory provider. Sometimes, it combines two or three of these functions.

There are the efforts to slightly adjust the AKIS definition in line with recent trends in the agricultural and rural development. Instead of AKIS, there is tendency to re-name it on the Agricultural innovation system (AIS) which indicates 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 their behaviour and performance. (Hall et al. 2006) Definition of advisory services in pluridisciplinary perspective is as follows: Agricultural advisory services as the entire set of organizations that will enable the farmers to co-produce farm level solutions by establishing service relationships with advisers so as to produce knowledge and enhance skills. (World Bank, 2006b)

The objective of the submitted article is to evaluate the development trends of the agricultural extension, its strengths and weaknesses, challenges and opportunities upon the comparison in the frame of V-4 countries.

2. Data and Methods

This paper discusses the trends and challenges in agricultural extension and advisory services and their implications for V-4 countries (Czech Republic, Hungary, Poland, Slovak Republic) The main aim of this paper is to provide a comprehensive description of the Agricultural Knowledge and Information system (AKIS) in the V-4, with particular focus on agricultural advisory services. The characteristic includes AKIS description, history of advisory services, public policy, funding schemes, human resources, clients and topics, performing and planning of advisory work and section on how the Farm Advisory Systems (FAS) was implemented.

This paper partly represents an output of the work package: WP3 titled as AKIS in the EU: Inventory which is part of the PRO AKIS project (Prospect’s for Farmer’s Support: Advisory services in the European AKIS). It is based on common research team conceptual understanding of key issues and structure of national appraisal and on qualitative interviews, diagram and quantitative survey in each EU country. It was partly done by consortium members, partly by other experts. Summative appraisal of single country reports was done by University of Krakow.

3. Results and Discussion

The countries of the European Union are highly diversified in terms of territory, population, society and economy, especially in term of their structure of agriculture; therefore we have picked up only several basic economic indicators to compare V-4 countries.

According to the EUROSTAT there is over 12,2 million of agricultural holdings across the EU-28 working on 174, 1 million hectares of land., there are 1,507 million agricultural holdings in Poland, 0,577 million agricultural holdings in Hungary, 24 460 in Slovakia and 22 860 in Czech Republic. Countries of V-4 represents over 17, 4 % of all agricultural
holdings in EU-28. Average utilized agricultural area per holding in the V-4 differs significantly. The small number of big farms leads to an unusually high average area per holding registered 152, 38 hectares per farm in the Czech Republic. The farms in Slovakia have 77, 49 hectares per farm. This means high concentration of agricultural land and reduction of agricultural holdings. On the contrary, average utilized agriculture area is smallest in Hungary 8, 1 hectares per farm and in Poland 9, 6 hectares per farm.

Regarding living standards expressed by GDP per capita (Euro) is reported in Czech Republic 14 600 Euro, it means 57 % of EU-27 average GDP per capita. Slovakia is at 52 percent of EU-27 average value, and Poland with Hungary is at 38, 7 percent respectively 38, and 3 percent of EU-27 average value.

Based on data, share of agriculture sector in national GDP it does not differ much within V-4 countries. Slovakian agricultural sector represents 3, 86 percent, Polish agricultural sector stands for 3, 54 percent, Hungarian agricultural sector reached 3, 53 percent and Czech share is only 2, 31 percent in national GDP. Average value of EU-27 is 1, 48 percent.

Establishment of agricultural advisory systems in V-4 comes back to the period of political and socio - economical changes in Central Europe with one exemption, Poland. Agricultural Society of Hrubieszow was established in 1816, and formal agricultural advisory service in Poland started in 1883. The formation of farm advisory service (FAS) in Czech Republic and Hungary has started between 1990 and 1992. In Slovakia, the first agency dealing with agricultural extension was established in 1990.

There are different types of advisory organizations as per their ownership types: public, private, NGOs, FBOs and freelancers. The prevailing type of public (fully and semi-public) advisory organisations is in all V-4 countries. Main suppliers of advisory services in Czech Republic are private advisory organizations, agrarian NGO’s, universities and research institutions. Fragmented and un-coordinated system of four main types of advisory actors which operates in Hungary is as follows: free consultancy, subsidised consultancy, commercial consultancy and input providers (private sector). Among main suppliers of advisory services in Slovakia belong research institutes, agrarian NGO’s, private advisory organizations and public organizations (Agroinstitut and Institute for Forestry Extension and Education). Advisory system, in Poland, embodies Provincial Advisory Centres – public organization.

Regarding the major target groups by dominant type of advisory organizations there are following clients: (a) for public advisory organizations – medium and small commercial farms and young farmers, (b) for private (for profit and non-profit) organizations – large, medium and small commercial farms, (c) for FBO’s – large, medium and small commercial farms and producer’s groups. New client have appeared for agricultural services – increasing groups of young farmers, families as a whole, rural inhabitants, newcomers, women and NGO’s. The major target groups in Czech Republic for private organizations are large and medium commercial farms and for agrarian NGO’s are large, medium and small commercial farms. In Hungary, the targeted groups depend on agricultural service provider, but in general medium and small commercial farms. In Poland, there are medium and small commercial farms and young farmers. Focus is on large, medium and small commercial farms in Slovakia.

With regards to the sources of funding of agricultural advisory services are: public funds (on national or regional level), private funding (direct payments for services from farmers, NGO’s), membership fee, production levies, EU funds. The mixed system of financing mainly (public-private) prevails in V-4 countries. Main sources for agricultural extension in Czech Republic are represented by mixed funding for both main advisory providers. Generally, different sources in each individual AKIS level ( on 1st and 2nd level are designated

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in the form of programmes, included in national subsidies, 3\textsuperscript{rd} level from RDP (Regional Development Programs) and 4\textsuperscript{th} level from Ministry of Agriculture and web pages owners). Mixed funding works in Hungary, but depends on advisory service provider. Major source of funding in Slovakia is mixed funding. There is funding in the form of national contribution to the farmers NGO’s, as well as co-financing by farmers or rural businessmen, in addition to the provided EU funds. In Poland works mixed funding, too. State budget created (2012) approximately 56 percent, funds from other provincial units of public sector secure 15, 2 percent, EU funds presents 1, 2 percent and from service takers makes 25 percent (beneficiaries – farmers, businessmen and farmer’s organizations).

Regarding the main topics of advisory services in EU-27 we found there are some variances between the client’s clusters. The major topics of advisory services for large and medium commercial farms are plant production, animal production, accounting, taxes, cross-compliance and environmental protection. Small commercial farms are interested in the similar topics plus rural development and diversification issues. Newly recognised topics of advice are bio products, renewable energy, biogas production, water management, natural resources management and biodiversity. Main topics of advisory services in Czech Republic are plant and animal production, cross compliance, environmental protection, stable design and renewable energy. In Hungary, there are following topics: for medium commercial farms the following activities are provided - cross compliance, plant and animal production, and for small commercial farms – plant and animal production. Polish medium and small farms are interested in plant and animal production, book-keeping, cross compliance, taxes, environmental and rural development. Young farmers are looking for advice in area of plant and animal production. In Slovakia, main topics of advisory services touches cross compliance, plant and animal production, environmental issues and rural development.

In V-4 countries there is no unified AKIS system. The each country built its own system determined on the basis of legislation acts, ownership of research institutions and advisory organizations, structure of education, sources of financing, characters of farm holder’s needs and expectations and implementation of CAP and local agricultural policies. Concerning research and education actors their function in AKIS is not only that they are creators of knowledge and innovation and educators, but they are also provider of advisory services. There are main six AKIS actors: 1. Creator of agricultural policy (government, parliament, institutions, state agencies, local governments); 2. Research and education organizations; 3. Providers of advisory services; 4. Users of advisory services; 5. Producers of input (suppliers); 6. Producers of output (food processors, wholesalers or other enterprises). Research and education institutions deal with generating new knowledge to consistently strengthen the system in the scope of innovation with analyses of efficiency of the applied production technologies, developing new management systems, in particular links to AKIS, as well as comprehensive and specialized education of new staff for all AKIS links.

Czech Republic: AKIS represents a complex system of agriculture advisory services including the transfer of the newest knowledge and information to users. The main parts are the Department of Education and Advisory of Ministry of Agriculture, Institute of Agricultural Economics and information followed by agricultural agencies -13, research and educational institutions (institutes – 4 and universities – 3), private consultants – 264, chambers – 2, farmer group – 2, agricultural holdings and producer’s organisations – 22 860. There are tools in the frame of the system for synergic operation between all parts actors. There is strong relationship and rather formal cooperation between actors at particular levels, formal and informal cooperation between levels and personal linkages and networking are additional benefits of system.
Hungary: AKIS consists of following actors: Ministry of Rural Development, 16 research institutes and 7 universities, 97 private consultants, 1 chamber and 576,810 agricultural holdings as producers or users. Present market potential for commercial advisory services in Hungary is very limited. Large farms have their own advisors and do not use agriculture advisory. Very small farms do not seek technical advice. Farmers cannot see benefits only the costs. Specialist advisors which operate within FAS are under-employed because demand for their services is at low level. There is lack of trust between farmers and advisors in terms of inconsistent quality of provided services. Cooperation within AKIS is characterized by weak relationship among the actors and must be improved in terms of knowledge flow.

Poland: There are following main stakeholders of AKIS: Agricultural advisory organisations are represented by 1 Agricultural Advisory Centre, 16 Provincial Advisory Centres, 16 agricultural chambers and 163 private advisory organizations and NGO’s. These actors cover wide spectrum of educational, environmental, ecological, developmental and cultural activities. Advisors mainly deal with market information, promotion of agricultural, economics and organizational innovations, constant education and solving the problems. Research and Education contains 13 agricultural research institutes, 10 universities of agriculture or life sciences, 15 colleges and 45 secondary agricultural schools. Scientists and teachers deal with generating new knowledge to strengthen the system in the scope of innovation. Agricultural policy actors include Ministry of Agriculture and Rural Development, Ministry of Environment, Ministry of Finance, Ministry of Science and Higher Education, 2 parliamentary committees for agriculture, 3 state agencies, 5 state inspections, 16 provincial governors and 314 country districts. Politicians, administration officials and inspector are responsible for agricultural policies, quality, health, safety, environmental protection etc. There are 1,506 million of agricultural holdings as users. There is different quality level of relationship between AKIS actors. Very strong cooperation is between farmers and advisory organisations. Strong cooperation is between farmers and suppliers of inputs, farmers and sales, advisory actors and research and education actors, advisory actors and agricultural policy makers.

Slovakia: Within AKIS, organisations and institutions are inter-connected in order to generate new knowledge, share experiences and transfer it among themselves with the aim of introducing it into agricultural and rural practises. AKIS includes following main actors: Ministry of Agriculture and Rural Development, 2 agencies (Agricultural Paying Agency and Rural Development Agency), 5 research institutes and 4 universities, 14 private consulting companies, 27 independent consultants, 2 farmer’s group, 2 chambers and 74,600 agricultural holdings as users. The specific national agreement about integration of knowledge exchange does not exist among AKIS actors. There are agreements on the targeted budgetary allocations and these agreements include paragraphs which are referring to responsibility of respective institutions towards knowledge exchange and information sharing and transfer of innovations and new technologies within existing institutional frameworks. Despite the integration of organisations in relation to research and advisory, as well as links among the farmer’s community, were not successfully developed after EU accession. From this point of view AKIS system does not function well where cooperation is not strengthened from policy makers.

4. Conclusion

The main objective of this paper is to provide a comprehensive description of the Agricultural Knowledge and Information system (AKIS) in the V-4 (Visegrad group countries, Czech Republic, Hungary, Poland, Slovak Republic), with particular focus on agricultural advisory
services. The characteristic includes AKIS description, history of advisory services, public policy, funding schemes, human resources, clients and topics, performing and planning of advisory work and section on how the Farm Advisory Systems (FAS) was implemented.

Average UAA per holding in the V-4 differs significantly. It is connected to different historical development in V-4 countries relating ownership of agricultural land. The highest is in Czech Republic 152, 38 hectares per farm, in Slovakia 77, 49 hectares per farm. In Poland, it is 9, 6 hectares per farm and in Hungary 8, 1 hectare per farm.

There are important differences in living standards expressed by GDP per capita among V-4 countries. Czech Republic reports 57 percent of EU-27 average value, Slovakia is at 52 percent, but Poland and Hungary are slightly above of 38 percent.

There is prevailing type of public (fully and semi-public) advisory organizations in V-4 countries. Mixed system (public-private) of financing is main source of funding of agricultural services within V-4 countries.

It is impossible to standardize and unify the same structure and one identical frame of agricultural knowledge and information system within V-4 countries. Diversity of AKIS system is influenced mainly by historical and economic development of concerned country, legislation, financial support, needs and expectations of the all involved stakeholders.

Czech Republic: There is strong relationship and rather formal cooperation between actors at particular level, formal and informal cooperation between levels and personal linkages and networking are additional benefits of AKIS system.

Hungary: Cooperation within AKIS system is characterized by weak relationship among the actors and must be improved in terms of knowledge flows.

Poland: There is different quality level of relationship between AKIS actors. Very strong cooperation is between farmers and advisory organisations. Strong cooperation is between farmers and suppliers of inputs, farmers and sales, advisory actors and research and education actors, advisory actors and agricultural policy makers.

Slovakia: Despite the integration of organisations in relation to research and advisory, as well as links among the farmer’s community, were not successfully developed after EU accession. From this point of view AKIS system does not function well where cooperation is not enhanced from policy maker actors. The specific national agreement about integration of knowledge exchange does not exist among AKIS actors.

In V-4, there is undergoing process of decentralization and fragmentation of advisory services along with progressive commercialisation and privatisation of public organisations. Globalisation results in an increase of competitiveness between suppliers of advisory services and increasing influence of new providers of advisory services such as NGO’s and FBO’s. The major objective of extension system is to combine the expert skill of agricultural holdings and state of the art usable scientific knowledge from research and education field to support local agricultural economies. Policy makers have to motivate AKIS stakeholders to enhance linkages, to eliminate gaps in communication and bridge blank spaces among separate elements of extension system aiming to improve cooperation and strengthen business relationship.

References


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