

Role of Extension Services in Promoting Multifunctional Agriculture and Integrated Rural Development in Serbia

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ABSTRACT

Agriculture still plays an important socio-economic role in Serbia. A large share of the Serbian population lives in rural areas. Therefore, agricultural and rural development (ARD) is of paramount importance for the sustainable development of the country. Agricultural extension and advisory services (AEAS) are a pillar and a building block of any strategy for ARD. The paper aims at analysing agricultural advisory and extension services of Serbia, with a special focus on their role in promoting agriculture multifunctionality and integrated rural development. The work provides an overview on Serbian agricultural advisory systems: historical development; organizational structure; human and financial resources; field advisory methods used to meet the needs of the different clients and service users; communication methods and media; as well as monitoring and evaluation activities. The paper is based on an extended review of secondary data from different sources as well as primary data collected by questionnaires performed by extension agents in February 2013 with 99 rural people - in Užice and Čačak (central Serbia), Loznica (western Serbia) and Vranje (south-eastern Serbia). The questionnaires dealt, among others, with access of rural people to and their satisfaction with the services provided by AEAS. A special attention was devoted to services regarding the off-farm sector and rural development *i.e.* beyond crop production and animal husbandry activities. The biophysical and socio-cultural diversity of Serbian rural areas as well as the increasing diversification of the rural economy represents a challenge that AEAS have been trying to address through the modernisation of their extension approaches and communication media as well as the diversification and decentralisation of their services. Nevertheless, there are still some weaknesses that should be properly overcome in order to move towards a rural innovation system that prepares Serbian agriculture and rural areas to the European Union's accession.

Keywords: extension, rural development, multifunctionality, Serbia

INTRODUCTION

Serbia is characterised by favourable natural conditions, land resources and climate resulting in a high diversity of agricultural production. The share of agricultural land in total territory is 66 % *i.e.* about 5.1 million hectares (Bogdanov and Bozi 2010). Primary

production from agriculture, hunting, forestry and fisheries accounted for over 10% of the gross domestic product (GDP) in 2009 (EC 2011). Livestock production accounts for about one-third of the value of agriculture (Bogdanov and Bozi 2010). The share of the food, beverage and tobacco industry in GDP is 5.5% on average (Bogdanov and Bozi 2010). Agricultural exports contributed about 24% of total Serbian exports in 2009 (EC 2011).

In Serbia, rural area is defined as an area, whose main physical and geographical characteristic is the primary use of the land for agriculture and forestry. According to this definition, about 70% of Serbia can be subsumed under the rural areas. In these areas lives about 43% of the total population (RDNS 2010). Around a third of the active population depends at least partly on agriculture for their livelihood (EC 2011). In rural areas more than 45% of the active population is employed in agriculture, forestry, hunting and fishing (Stevanovi *et al.* 2005).

Many structural problems and constraints hinders agricultural and rural development in Serbia (Table 1).

Table 1. Main problems faced by Serbian farmers and rural dwellers.

Problems in agriculture sector	Problems in rural areas
Inadequate levels of investment	Declining number of agricultural holdings
Low inputs	Intensive migration
Inadequate technology	Low levels of economic diversification
Difficult access to credit	High unemployment and lack of job opportunities
Use of uncertified seeds	Inefficient service delivery
Low yields and productivity	Difficult access to credit for investment and support services
Increased imports	Weak market infrastructure
Fragmented and complex farm structure (<i>i.e.</i> small agricultural holdings and plots)	Underdeveloped institutional (social welfare, education) and physical infrastructure
Outdated mechanization	
High production costs	

Source: Adapted from European Integration Office-Serbia 2011; Arcotrass *et al.* 2006; Bogdanov and Bozi 2010; Jankovic S. pers. commun.

Agricultural and rural development (ARD) is of paramount importance for the sustainable development of Serbia. Agricultural extension and advisory services (AEAS) are a pillar of any strategy for ARD. One can simply say that *extension is getting knowledge to farmers so that they will make a positive change* (USAID 2012). Advisory service is commonly used as an alternate term for extension services. Apart from their conventional function of providing knowledge and technology to improve agricultural productivity, agricultural advisory services are also expected to link farmers to markets, promote sustainable production techniques, etc. (Swanson and Rajalahti 2010).

Good extension is recognized as a key to agricultural development. Agricultural extension is the defining metaphor for all technology transfer activities and models. For extension to be successful, it needs to include credible content, effective delivery and be relevant to and applicable by clients (USAID 2012).

Generally speaking, the performance of the agricultural extension system is strongly correlated to that of the research, development, education (formal, non-formal

and informal) and training (including vocational training) systems. The Agricultural Knowledge and Information System (AKIS) model (Röling 1996; Engel 1997) describes how knowledge generation functions, and how it is disseminated and applied. The actors at the knowledge policy level are the Ministry of Agriculture and the Ministries of Science and Education. The knowledge generation level encompasses research institutes and institutes of higher education (FAO 2011).

The paper aims at analyzing extension and advisory services in Serbia and at exploring their contribution to sustainable agricultural and rural development.

MATERIAL AND METHODS

The paper is based on an extensive review of secondary data as well as primary data collected by questionnaires performed - by extension agents in February 2013 with 99 rural people - in Ufice and a ak (central Serbia), Loznica (western Serbia) and Vranje (south-eastern Serbia). Taking into consideration the livelihood strategies of the interviewed households, about two thirds can be classified as agricultural (68.7%) while the remaining can be considered as non-agricultural or mixed.

Secondary data were collected from different sources such as the FAO Regional Office for Europe and Central Asia; the European Commission (EC); USAID; Arcotrass GmbH; Leibniz Institute of Agricultural Development in Central and Eastern Europe (IAMO); the European Integration Office of the Republic of Serbia; the Rural Development Network of Serbia (RDNS); the International Bank for Reconstruction and Development (IBRD); etc.

The work provides an overview on Serbian agricultural advisory systems' historical development; organizational structure; human and financial resources; field advisory methods; communication methods and media; as well as monitoring and evaluation activities.

Questionnaires dealt, among others, with access of rural people to services provided by AEAS. A special attention was devoted to services regarding the off-farm sector and rural development.

RESULTS AND DISCUSSION

Serbia has a comprehensive agricultural education system, which is organized through a number of agricultural schools and university faculties. The whole system is under the authority of the Ministry of Education, which is responsible for the design and the implementation of the curricula (Arcotrass *et al.* 2006). Secondary schools provide basic agricultural knowledge but course are little practice oriented. Agricultural faculties (*e.g.* Belgrade, Novi Sad, Cacak) provide comprehensive and multidisciplinary agricultural studies.

In the Western Balkans, current agricultural extension structures have been developed mainly within the last two decades with the help of international donors (FAO 2011). Serbia is an exception as agricultural extension service started its initial development during the 50s of the last century. In fact, in the period 1953-1960 was set up a network of agricultural stations. During this period was formed the Centre for the Improvement of Agricultural Production and the Department of Livestock Breeding (Zivkovic *et al.* 2009). Nowadays, the legal successor of the Centre and the Institute is the Institute for Science Application in Agriculture.

As for the institutional setup of public extension, Serbia has a national structure with direct field branches at the regional level. These cover a number of municipalities. The network of professional extension services in Serbia is coordinated by the Institute for Application of Science in Agriculture, which is under the auspices of the Ministry of Science. About 231 field advisors and administration staff are employed by the Serbian public extension. Agricultural extension and advisory system in Serbia is composed by public extension and private advisory services.

The development of advisory services in the Western Balkans started after the years of crisis and war with the strong support of international donor projects. Donor projects are still active at national level in Serbia (*i.e.* World Bank project). The common strategy of all donor projects was to establish and support advisory structures (public and private) in order to select and train advisors and to provide them with the necessary tools and materials for their everyday work. In almost all cases the establishment of potentially workable extension structures can be called successful. Extension agents have been provided with a sound base of technical (and partially methodological) knowledge and skills, before being left on their own (FAO 2011).

Support for public services in agriculture (*e.g.* extension service, veterinary and phytosanitary services, etc.) in Serbia is provided but the share of agricultural budgetary funds dedicated to these services is small (Volk 2010). Within the general services sector, the greatest proportion of support funds is directed to extension services or to financing agricultural expert service (34-56 %) (Bogdanov and Bozi 2010; Arcotrass *et al.* 2006).

Extension organisations emerged from the former extension systems for state owned and individual farms. The majority of the field staff within the system are agricultural experts from the former system. In fact, the majority of advisors are over 40 years. This strengthens two biases: the strong focus that is still directed towards production techniques and the relative preference given to large farms with respect to small and medium holdings (FAO 2011).

Serbian public agricultural extension is mainly addressed to commercial family farms and lesser attention is paid to small producers. Usually, small producers must go by themselves to ask for advice. Moreover, extension agents prefer, generally, to work with farmers with whom the cooperation is easier, who are more interested in extension support and who have more financial means to put into practice their production and management advice (Petrovi *et al.* 2009).

Almost all the interviewed households (94.9%) use services provided by extension service. Surprisingly, all non-agricultural and mixed households use extension services while only 92.6% of agricultural households do. That may be explained by the fact that livelihood diversification means engaging in activities that are more knowledge-intensive and for which information support is more necessary with respect to the traditional crop production activities.

Only about a half of the interviewees (56.6%) declared that they need extension agents advice. This relatively low percentage may be due to the fact that some interviewees are not knowledgeable and well informed about the advisory services provided by the public extension and/or that they do not consider support provided so helpful for solving problems they face. That is particularly the case regarding non-agricultural households.

Advice needed differ according to the household type. Agricultural households need mainly advice on the following issues: animal health, cooperative establishment, animal husbandry, fruit growing, subsidies programmes, production and processing of

agricultural products, plant protection, logistic issues, infrastructure, access to market, and legal issues. Mixed households needs in terms of advice regard mainly fruit pruning, plant protection, animal health, organic production and agricultural products processing.

Apart from extension services, the interviewed households rely on different agricultural information sources. However, the most important ones are TV, Radio and the internet (Fig. 1). Some of the interviewees mentioned also agricultural institutes such as Zemun Polje and Novi Sad.

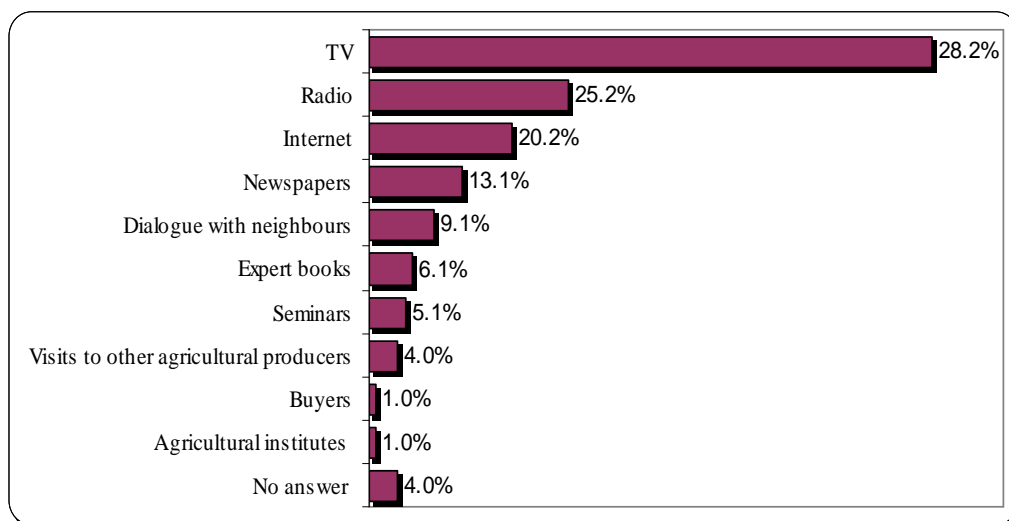


Fig. 1. Main sources of information used by the interviewed agricultural producers and rural dwellers.

Approach to farm families is based mainly on individual contacts (sample farmer). Direct display methods include demonstration plots, field visits, field days and workshops. Extension workers also organise public lectures. Different media are used in information dissemination such as leaflets, brochures, Radio, TV and the internet.

The weaknesses of the present public advisory systems are most obvious when we look at advice to farm families and on farm management. Extension for integrated farm development is not covered by public extension in the region. Advisors in the public systems do not have the time, means and/or the training for it. What are missing are skills in the socio-economic assessment of farms, in the calculation of profitability of investments, risk assessments and in the management of farm development projects. However, as for the gross margin calculation, the Serbian Institute for Science Application in Agriculture (ISAA) went a step ahead in the few last years with a project to provide reliable average figures on production gross margins.

Most Western Balkan countries started to develop an information system on markets, but are not able to fully implement it. This is partially due to the scarcity of staff or to conceptual mismatches meaning that information reaches the farmers only by chance and often much too late. Serbia is a step ahead in terms of a working data collection, interpretation and publishing system.

As for linkages of the advisory services with other actors in the AKIS, public extension has an intensive cooperation with applied research institutions. Moreover, extension stations do applied research themselves. There is a regular cooperation with

universities especially in Vojvodina, where a university department developed and implements an extension monitoring system in the autonomous province.

Most stakeholders in the Western Balkans do not yet understand the concept of rural regional development as integrating the social, economic and environmental development of a region including the creation and strengthening of regional value added chains. However, there are NGOs that are going in this direction and there are individual public advisors who support farmers' associations in their efforts for processing and marketing their produces. Serbia went a step ahead with the creation of regional development offices, staffed by NGOs and with a mandate to identify potential for rural development and to support regional processes accordingly.

Extension agents provide information and advice on national subsidy programs. Nevertheless, according to FAO (2011), the Serbian public extension provides farmers and rural dwellers only partially with information and support on rural and agriculture tourism. However, Serbian extension services recently started providing information on national and international rural development programs by the initiation of Rural Development Offices. As a matter of fact, most of the interviewees (89.9%) consider that they are enough or well informed about programs of state help for agriculture and rural development. Mixed households seem having the best access to information on subsidies programmes as 92.7 of them consider that they have enough information. Rural Development Offices and individual municipal advisors provide also support for the initiation of processing and marketing associations.

Until 2010 no systematic training was on offer for Serbian field advisors. The ISAA performed practical training courses to extension agents but they were not regular and to a large extent production technology oriented. The Serbian Transitional Agriculture Reform project (STAR) takes up training activities in 2010 preparing for the provision of an advisor training program. The Institute for Science Application in Agriculture started educational activities of extension agents with the support of World Bank project and the Ministry of Agriculture, Forestry and Water Management of Serbia and become a national training and support institute for agricultural advisory services.

As of 2011 (FAO 2011), Serbian extension agents needed training sessions mainly on the following issues: extension methodology; farm economy, farm management and whole farm development; marketing, market development and value chains; national rules and regulations; EU regulations relating to production, marketing and product quality; supporting farmer groups and associations; specific computer programs; and foreign languages. The Institute for Science Application in Agriculture (ISAA) started in 2010 training activities dealing with most of these issues in the whole country.

Monitoring of advisory work is fairly advanced in Serbia, having a considerable database on advisors' activities, farmers' needs and the results of on-farm research. However, monitoring is more about examining the activities of advisors than documenting the impacts of advisory work. Moreover, the data that is collected is not used to its full potential for supporting the advisory system management (FAO 2011).

Serbia has many best practices that can be shared with neighbouring countries. Examples of this include (FAO 2011): the development of a training institution, the functioning of a market information service, and the functioning of a monitoring system as a steering instrument for extension management. Nevertheless, Serbian extension services face many problems in dealing with producers as well as finance, management, technical support problems, overload with non-extension activities, low number of extension agents, etc. (Petrovi *et al.* 2009).

CONCLUSION

Serbian rural areas diversity as well as the increasing diversification of the rural economy represents a challenge for agricultural advisory services. Moreover, advisory services face many financial, management and technical problems. Funds available for field-level extension activities and in-service training courses for the extension staff are limited. Given the high exposure of Serbian agricultural producers and rural entrepreneurs to TV, radio and the Internet extension services should consider relying more on these communication media for disseminating agricultural- and rural-related knowledge, information and advice. Moreover, public extension should pay more attention to thematic issues that are just partially served by the current extension system such as non-farm income-generating activities and farming system management skills. The programme for continuous training of field advisors should be strengthened and upgraded.

All in all, higher attention should be paid to supporting Serbian extension and advisory services to allow them to assume fully their role in the promotion of rural innovation, diversification, multifunctionality and sustainability. The need for supporting Serbian agricultural advisory services is significant bearing in mind the institutional weakness of the sector and the technical and technological unpreparedness of farmers and rural people to meet complex requirements associated with agricultural and rural policy reform needed to align the agricultural and rural development policy and practice in Serbia with the European *acquis*.

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