

## Stages of Development of Agricultural Extension Service in Bosnia and Herzegovina

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### Abstract

The paper elaborates on the evolution of agricultural extension service development in Bosnia and Herzegovina in the period before and after the 90-ties. In order to make a review of agricultural extension in characteristic periods, historical method of data analysis sourced secondary in combination with analysis and synthesis method. The review was conducted according to a standardized template to nine criteria stating both their advantages and disadvantages. Review of the current state of agricultural extension services by entities has been based on analysis of data from primary and secondary sources and personal observations by author. Results of the research show that the Agricultural Extension Service in Bosnia and Herzegovina has gone through three stages and three different models of extension service development: Technology Transfer Model, The Farm Management Model and The Rural Extension Model. Taking into consideration the problems and weaknesses that were identified some recommendations were made to improve the Bosnia and Herzegovina Agricultural Extension Service performance.

*Key words:* Bosnia and Herzegovina, agriculture, transition, extension service

## Introduction

Bosnia and Herzegovina (BaH) consists of two governing entities *i.e.* the Federation of Bosnia and Herzegovina (FBaH) and Republika Srpska (RS); and a self-governing administrative unit *i.e.* Brčko District (BD), under the State sovereignty.

During the post-war period, the rural scenario in BaH has changed dramatically. Rural economy in BaH is getting more diversified but agriculture still plays an important socio-economic role (Berjan et al., 2013). Agriculture share in GDP was 6.97% in 2013 (ASBaH, 2014). The share of formal employment in agriculture was 2.3% (ASBaH, 2015), while the share of informal employment in agriculture was 17.1% (ASBaH, 2014). Rural areas cover 81% of the country's territory and approximately 61% of the total population can be classified as rural (Lampietti et al., 2009). Due to the fact that agriculture in Bosnia and Herzegovina has had a significant role in the structure of the economy, which productivity is low and financial results weak, agricultural extension is important and necessary as a way to improve the overall productivity.

Agricultural extension is the application of scientific research and knowledge to agricultural practices through farmer education. Generally, agricultural extension can be defined as the "delivery of information inputs to farmers" (Anderson et al., 2007). The role of extension services is invaluable in teaching farmers how to improve their productivity. Extension is also critical to move research from the lab to the field and to ensure return on investment in research by translating new knowledge into innovative practices (Davis et al., 2009).

Until the 90-ties, agricultural extension services in Bosnia and Herzegovina (BaH) were organized in cooperatives, technology services of state owned combinates, as well as within specialized extension services in institutes and other institutions. In the Western Balkans, current agricultural extension structures have been developed mainly within the last two decades with the help of international donors. Public extension structures exist besides other providers such as NGOs and commercial extension agents (FAO, 2011).

Revival of agricultural Extension Service after the war began with implementation of projects financed by the EU, and the establishment of a network of extension services across the country applying the German and British school of agricultural extension. Extension Service in BaH is not equally developed in all regions (entities, district). Attempts for a new wave of modernization of extension services modelled on the Slovenian case, occurred in 2010 when the World Bank funded a project financed development of a Strategic plan of extension service development.

The Strategy envisages modernization of services, specialization of services, strengthening of human resources and licensing of extension work. Four years after making these strategic documents, the degree of development of extension services in both entities is not significantly altered.

### The First Stage: Technology Transfer Model

Origins of the provision of extension services in agriculture in BaH may be associated with the period of mid 80's of the 19th century when the Austro-Hungarian authorities established the four agricultural stations: Gacko, Modriča, Butmir and Livno. In the early 50's of the 20th century in Bosnia and Herzegovina, the network of 19 agricultural stations was established, and then in the beginning of the 60's of the 20th century the number of stations was decreased to 12 stations. Then the Republic extension center in agriculture was formed, uniting the work of agricultural stations.

The functions and tasks of these structures were: providing technical assistance to farmers and cooperative organizations, demonstration of new technologies and techniques in agricultural production, education of farmers, peasants, keeping records of selection in livestock and others. In the later period, from '80 up to '90 these agricultural extension services were organized within agribusiness companies (state owned agricultural systems). These services are complemented with extension services within enterprises and cooperatives, while the agricultural stations in Doboj, Bijeljina, Banja Luka, Tuzla, and Brčko retained until 1992. Extension services in agricultural enterprises, enterprises of processing industry (tobacco factory, sugar refineries, fruit and vegetables, dairy) and cooperatives had a deficiency in limited action on certain small groups of farmers.

Tab. 1 shows an overview of the basic strengths and weaknesses of this model of extension work. The model was based on the traditional approach of transfer of information about new technologies. The main objective of extension work in agriculture was the modernization through technology transfer. The advantages of this model were in good distribution of knowledge and technology between research institutes and agricultural enterprises. The main disadvantage is that the effects of a given model could not have been felt by the individual agricultural farms, except indirectly. The farmers were organized exclusively in agricultural cooperatives and in a passive manner, which on the one hand allowed them to have indirect access to new technologies. However, on the other hand, cooperatives at that time were organized as socialist enterprises and they favored their own production, and the cooperation with farmers was established through supplying inputs and collection of agricultural products.

Tab. 1. Evaluation of BaH model of advisory services until 1990

*Евалуација модела БиХ савјетодавних служби до 1990. године*

Criterion <i>Критеријум</i>	Strengths <i>Предности</i>	Weaknesses <i>Недостаци</i>
Way of organisation	State-owned stations, state-owned enterprises, agrocombinats	No private sector participation
The function of the extension work	Transfer of information and knowledge about the technologies of agricultural production, ToT approach	No partnership between advisor-farmer
Additional extension functions	Focus of agricultural policies aimed at modernizing production and increase productivity	No additional extension functions aimed at environmental protection, sustainable development, rural development
The target group	State companies and conglomerates, agricultural cooperatives, partial and individual farmers	Individual family farms out of the direct focus of extension services
Extension methods (knowledge transfer)	Lectures, demonstrations	Absence of individual extension work with farmers
The establishment relations among the links of the AKIS	Good relations between research centers and agrocombinats and enterprises	Organizations of producers, except cooperatives, as a missing link in the system of AKIS
Participation of farmers in extension work planning	Partially through agricultural cooperatives	Agricultural cooperatives organized as socialist enterprises
The decentralization of management	Planned economy	Equal access to all areas and sectors
Pluralism	Only within the state-owned enterprises and institutions	No other providers of extension services

### The Second Stage: Farm Management Model

After the 90's war, extension structures in all the countries in the region were reconstructed or reformed. This was achieved with the support of international projects from the World Bank, the EU, and bilateral donors.

Most projects were supporting organizational development as well as the training of field staff (FAO, 2011).

Activities in the area of agricultural extension work stopped completely in the nineties. In 1999, the EU PHARE projects - PFAP (Private Farmers Assistance Project) and the EU - ESP (Extension Service Project) that started in the year of 2000, were funded by the European Commission with the aim of establishing a network of extension services in BiH. In the first phase (project PFAP), pilot extension services were established in two regions of the Una-Sana Canton (FBaH) and Banja Luka region (RS). In the second phase (ESP) Project developed a network of extension service offices in all regions of Bosnia and Herzegovina. Today, 20 years after the establishment of the first post-war extension services, we can say that the objectives of EU projects are partially achieved. However, on the contours of the project model the extension services in one entity, the Republic of Srpska was established and continued its work, while in the other entity FBaH, we can no longer speak of a network of extension services but sporadic capacities which are distributed by municipalities or regional centers without any mutual coordination.

Tab. 2 provides an assessment of the model which, unlike the previous model, was focused on agricultural household/farm based on a farm management model, which was modeled on the English and the German schools of extension work in which the issues of management, calculation of production costs, monitoring of market prices and focus on improving the productivity and cost-effectiveness dominated in an extension approach. A wide network of extension offices was developed with well-planned structure of human resources with a focus on a specialty needed for a particular area.

Although modern and innovative, as well as the model aimed at strengthening the competitiveness of farms, it has not come to life as a model of organization of agriculture extension in Bosnia and Herzegovina, and in some areas disappeared completely. The reason for this lies in under-developed family farms, fragmented and under reconstruction in the aftermath of the war. Administrative management model in the field of agriculture did not recognize the Extension Service as a professional organization which should strive for its independence in the final stage of development. On the contrary, one part of the capacities has been incorporated into the existing administrative structures and served the function of local and regional authorities in the implementation of regulatory measures. Here stands the entity of the Republic of Srpska as a part of BaH in which the complete network of extension offices was retained, but as an integral organizational unit within the Ministry of Agriculture, it suffered the consequences of bureaucratization of its capacities.

In the end it can be concluded that the farm management model came too early as a model of development in vulnerable Bosnia and Herzegovina agricultural and administrative structure.

Tab. 2. Evaluation of BaH extension model from 1999 to 2007  
*Евалуација екстензионог модела БиХ у периоду 1990-2007*

Criterion <i>Критеријум</i>	Strenghts <i>Предности</i>	Weaknesses <i>Недостаци</i>
Way of organisation	Agricultural extension services at the local, regional and state level	Turned out to be unsustainable for a young state structure, individual offices are embedded in the existing municipal and cantonal administrative structures
The function of the extension work	Farm management, the development of a market information system, development of machinery rings, the development of applied research	Turned out to be unsustainable in the country that just come out of war
Additional extension functions	Innovative approach to the basic functions	Not in compliance with the focus of development at that time, focused on the reconstruction of farms, and production in general
The target group	Individual family farms	Farm management approach suitable for large farms that did not exist at that time
Extension methods (knowledge transfer)	Lectures, demonstrations, group and individual counseling methods, mass media	The methods excess capacity in human resources
The establishment relations among the links of the AKIS	Extension services as bearers of an innovative approach	There is no real partnership within AQIS system
Participation of farmers in planning extension work	Partially	Weak capacity of producer organizations
The decentralization of management	Adopted to the existing administrative structure and political system	The absence of coordination of different levels of decision-making
Pluralism	Expressed through the presence of donor agencies, NGOs and others.	The absence of coordination between various service providers

## The Third Stage: Rural Extension Model

A new attempt to strengthen extension services in BaH begins with implementing the Agriculture and Rural Development Project (ARDP) of the World Bank. The implementation of the project started in October 2007, and the project became effective in 2008, and the scheduled completion of the project in 2013 was postponed until 2016. The aim of the project was to help Bosnia and Herzegovina improve the capacity of agricultural institutions at state and entity level.

The project supported the establishment and strengthening of the capacity of extension services in BaH. During the project implementation, the activities relating to technical and material capacities of extension services were carried out, the entity extension services development strategies were developed, the trainings of advisors in the EU regulations, new technologies, business planning and other were financed. These strategic documents provided a framework for the development of extension services in the period from 2010-2015 detailing the functions and organisational model of the extension services.

In this case, the so-called "Slovenian" extension model was applied, that included, in addition to basic services related to technology and management in agriculture, the development of additional extension services in the direction of rural development, environmental protection, food safety and others. In this sense there was a strong focus on the adaptation of rural development policy of the European Union and preparations for the implementation of EU regulations.

However, instead of the model described in strategic documents in practice another model began to live which was focused on the implementation of state/cantonal/local support measures in agriculture, i.e. the implementation of agricultural policy that is not or that is only partially in line with EU policy on Agriculture and Rural Development areas.

From the overview given in Tab. 3 it can be concluded that the main problem in the application of this model was the lack of capacity, both material and human, as well as the domestic non-conformities with the EU policies. In this case it can be said that the rural extension model was a premature model for an economically weak structure of the Bosnia and Herzegovina agriculture and administration.

Tab. 3. Evaluation of BiH extension model from 2010-2015

*Евалуација екстензионог модела БиХ у периоду 2010-2015*

Criterion <i>Критеријум</i>	Strengths <i>Предности</i>	Weaknesses <i>Недостаци</i>
Way of organisation	Agricultural extension services at the entity level only in RS, and in some cantons and municipalities	Different levels of development of the services in some parts of the country
The function of the extension work	Focus on the implementation of the current agricultural policy and partly the transfer of technology	In some parts of the country extension services have become administrative services
Additional extension functions	Entity strategies envisage a focus on rural development, rural tourism, organic farming, sustainable resource management, food safety, branding, rural women, rural youth	It is not applied in practice, it is unrealistic in terms of the services and the level of awareness of local actors in rural development
The target group	Individual family farms, commercial and non-commercial, associations of agricultural producers	Small capacities in relation to the number of users
Extension methods (knowledge transfer)	Lectures, demonstrations, group and individual counseling methods, mass media	Absence of continuing education of extension workers
The establishment relations among the links of the AKIS	Envisaged by entity strategies	Not applied in practice, No funds from which to finance functions of AKIS
Participation of farmers in planning extension work	Partially	Weak capacity of producer organizations
The decentralization of management	Adopted to the existing administrative structure and political system	Absence of coordination of different levels of decision-making
Pluralism	Highlighted: private extension organizations, trading houses, experts	The absence of coordination between various service providers

## Conclusion

Due to the complex administrative system of emerging country extension services were established in Bosnia and Herzegovina in fragmented ways and have a different organization, mode of action and results in different parts of the country. Mapping of different models of organization of extension services on the case of BaH, without, at the same time, providing funds for capacity building, development of human and material resources, did not contribute to the professionalization of public extension services. Service, which is fully controlled by the state, has a priority in the implementation of the government support measures, rather than technology development and improving productivity of agricultural holdings.

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# Фазе развоја савјетодавних служби у пољопривреди Босне и Херцеговине

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## Сажетак

У раду се разрађује еволуција развоја савјетодавних услуга у пољопривреди Босне и Херцеговине у периоду прије и после 90-тих. За потребе анализе развоја пољопривредног савјетодавства у карактеристичним периодима, коришћен је историјски метод анализе података заснован на секундарним подацима у комбинацији са методама анализе и синтезе. Анализа је обављена у складу са стандардизованим шаблоном са девет критерија наводећи предности и недостатке сваког од њих. Преглед тренутног стања пољопривредних савјетодавних служби у ентитетима заснован је на анализи података из примарних и секундарних извора и личних запажања аутора. Резултати истраживања показују да је Пољопривредна стручна служба у Босни и Херцеговини прошла кроз три фазе и три различита модела развоја савјетодавне службе: модел трансфера технологија, модел фарм менаџмента и модел руралног савјетодавства. Узимајући у обзир проблеме и слабости које су идентификоване, креиране су одређене препоруке за унапређење ефикасности савјетодавне службе у Босни и Херцеговини.

*Кључне ријечи:* Босна и Херцеговина, пољопривреда, транзиција, савјетодавне службе

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