

# Education structure and training needs assessment of agricultural and rural population in the Republic of Macedonia

Natasha Daniloska<sup>1</sup>, Blagica Sekovska<sup>2</sup>

<sup>1</sup> *Institute of economics in Skopje, Prolet 1, 1000 Skopje, Republic of Macedonia,  
(natasha.daniloska@ek-inst.ukim.edu.mk)*

<sup>2</sup> *Faculty of veterinary medicine in Skopje, Lazar Pop Trajkov 5-7, 1000 Skopje Republic of Macedonia*

## ABSTRACT

This paper discusses educational structure of agricultural and rural population in Macedonia, as well as its training needs. The aim of this paper is to review the status of the topic from the standpoint of National strategy and legal frame, its training structure and to present current situation and training needs. Considering the high unemployment level in the country and the fact that future reorganisation of the food industries might result in negative employment effects, access to quality education form the core of the new discourse for social and economic development in Macedonia.

**Key words:** education and training, agriculture and rural development, legal frame, formal education, non-formal education

## INTRODUCTION

Despite the efforts invested since the 1960s and the mobilization of the international community declared at the Jomtien Conference in 1990, poverty and illiteracy remain overwhelmingly rural phenomena. On the other hand, rapidly changing technologies and increasing globalization suggest that better education and training have become essential for sustainable livelihoods and rural economy competitiveness.

The rural areas of many developing countries are still lagging behind when it comes to education, and Macedonia unfortunately is among them. Situation becomes even more dramatic if we consider the high unemployment level in the country and the fact that future reorganisation of the food industries might result in negative employment effects. Faced with this reality, it is not hard to realize that access to quality

education form the core of the new discourse for social and economic development in R. Macedonia.

Yet, one of the major inequalities affecting rural population in Macedonia is the weakness of the vocational sector and access to quality education. This paper argues that in order to successfully develop and diversify rural economic activities in the country, vocational sector in agriculture must strengthen and become able to offer educational and training activities in the rural areas, especially to farmers and rural holders.

This paper explores aspect of National strategy and legal frame that concerns education and training in agriculture, food and rural development. Analysis of public and private providers of agricultural education and training, as well as of the numbers of enrolled and graduated pupils and students from agricultural or veterinary studies programs in the country, is a part of this paper.

Based on experiences from previously supported programs and project, this paper gives an assessment of current situation and training structure in the Macedonian agriculture. Emphasis is put on training needs and priorities.

## METHODOLOGY

This paper is critical assessment of the education and training structure of agricultural and rural population in Macedonia. It primarily draws on the National Strategy for Development of Education in Macedonia 2005-2015, literature review of education and training in agriculture and a desk review of activities in the projects related to the subject. For discussion on current situation and training needs, this paper presents results from the project "SFARM-Support to Farmers Associations in the Republic of Macedonia", financed by Swedish International Development Agency (SIDA)<sup>11</sup>. Used official data are from secondary sources, mostly the Census of Agriculture population in Macedonia, 2007.

## RESULTS WITH DISCUSSION

### **National strategy and legal frame for education and training in agriculture, food and rural development sector in the Republic of Macedonia**

In 2005, the National Strategy for Development of Education in Macedonia 2005-2015 was adopted. The mission of strategy is to develop education system that

will contribute to the international, and most of all, European political and integrative processes and will create conditions for effective application of the benefits from the educational, political, cultural and economic globalisation.

At the same time, Macedonian Government is taking measures to eliminate all obstacles that make education available and is promoting the life-long learning, which is especially important for rural population. In that sense, in the latest Law for agriculture and rural development adopted on 12 April 2010, there is a separate chapter for education and training in agriculture, food and rural development. According to this Law, trainings can be informative session or educational courses (consist of practical and theoretical part). They are intended for registered agricultural producers and can be provided by public educational and extension institutions, science/research institutions and other private organisation engaged in education, consultancy or providing information services. The costs for the trainings are refinanced 100% from the total eligible cost.

### **Present situation in education and training of agricultural and rural population in the Republic of Macedonia**

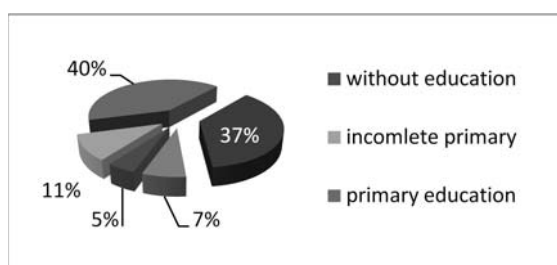
According the Agriculture census from 2007, there are 197 378 family agricultural enterprises and 297 agricultural enterprises, with 471 069 people engage in the individual sector (farms) and 5 544 people in the enterprises. The number of hired season workers is 103 187 on the farms and 6 419 by the

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<sup>11</sup> As the availability of research and information about trainings in agriculture, food and rural development is limited and not systemized, the research of SFARM about the education and training demand can provide valuable information. The analysis of education and training demand was done on a sample of 54 Family Agricultural Holdings (FAH). In general the respondents in the sample are decision makers in the FAH or individuals who have significant influence in the decision making process. Sample description explains that respondents are dominantly male, representing 98% of the whole sample. Dominant age groups are: 36-40; 46-50; 51-55. High school education is the main educational profile of the farmers interviewed. Respondents are farmers with long experience in agriculture, more than 21 years. 47% of the farmers interviewed are registered farmers.

enterprises. The share of people engaged in the agriculture more than 15 years represents almost 30% of all population over 15 years in the country. Total labour force engaged in agriculture, including the season workers is estimated at 220 000 employees or 24% of the total active population and 37% of the all employed persons in Macedonia<sup>12</sup>.

The educational structure of the agricultural population is catastrophic. More than a half of the agricultural population is with primary or incompleted primary education. The population without education is 5% of the total agricultural population, or almost half of the population without education in the country. The share of those with secondary and high education is low in the total population. The situation is even worse if we consider that only 12% are with agricultural, veterinary or other relevant secondary or high education.



**Figure 1. Education structure of the population engaged in agriculture**

Source: Agricultural Census, 2007.

Official statistics report that 116 601 people are employed in agriculture, hunting and forestry and 126 779 people in manufacturing, with the number of employed men higher than the number of women. Their dominant occupation is as general (elementary) workers while the number of qualified, specialised and skilled workers is only 8% from all employed people.

### Formal and non-formal education in agriculture, veterinary and food production

In Macedonia 10 secondary schools provide professional education in the field of agriculture, veterinary and food production. They are placed in several larger towns, that in some way enables equal opportunities for enrolling of pupils from the whole country. Most of the schools are combined with different professions, as agriculture-veterinary, agriculture-food processing or even grammar school with the agriculture profession.

Number of enrolled pupils in the agriculture and veterinary vocational schools is decreasing each year. In 2009, number of pupils enrolled covers only 4% from the total population in agriculture aged from 15 to 25 years and only 1% of the total population engaged in the agriculture without education or incompleted primary education.

**Table 1. Number of pupils enrolled in vocational secondary schools in Macedonia, period of 2005-2009**

	2005	2006	2007	2008	2009
Agriculture-veterinary	1 856	2 547	3 042	2 916	2 770
Agriculture	1 294	568	104		
Veterinary	643	329			
Food production	491	905	691	494	663
Total:	93 088	92 712	92 827	91 359	92 787

Source: Statistical Office of R.Macedonia

<sup>12</sup> Methodology used for calculation is interpolation according the annual working hour of full time employment in agriculture, AWU=2 200 hours.

Consequently, number of graduated pupils from secondary schools is reducing too. While in 2005, 1 077 pupils graduated with agriculture or veterinary vocation, this

number has reduced to 844 pupils in 2006 and down to 767 in 2008. The situation is the same in the food production.

**Table 2. Number of graduated pupils from vocational secondary schools in Macedonia, period 2005-2008**

	2005	2006	2007	2008
Agriculture-veterinary			406	680
Agriculture	655	663	208	47
Veterinary	422	181	106	40
Food production	441	371	251	169
Total:	22 824	22 148	21 393	21 200

Source: Statistical office of R.Macedonia

In 2008, the number of enrolled students in the agricultural or veterinary studies programs was 2 184. Number of graduated students in 2008 is 188 persons in the vocation of agriculture or veterinary and only 68 in food processing and technology of production.

The non-formal education of agricultural and rural population in Macedonia is mostly connected with donations and grants. Previously, main providers of the non-formal education were international projects. When Macedonia got the status of EU candidate country and international project donors withdrew, many professional associations and private-profit oriented consulting enterprises were established and currently they are the dominant providers of non-formal education for agricultural and rural population in Macedonia.

Some primary and secondary vocational schools, universities and other formal education providers are also involved in the area of non-formal education, organizing and delivering training programmes apart from the formal education programmes. Still, most of the non-formal education providers are highly dependent on the donations and grants.

### Training needs assessment

In Macedonia, the general need of capacity building in vocational sector in the agriculture, food and rural development is well recognized. Supply of training and education includes involvement of local and international trainers, both from the academic and practical area. Yet, overall assessment is that the provision of the trainings is quite chaotic, without existence of the strategic approach and relevant information for the analysis.

SFARM situation analysis indicates that beneficiaries prefer local over international trainers. In the past few years local trainers have promote themselves as a reliable source of good quality knowledge in the agricultural sector. As for the international trainers, prevailing opinion is that they have difficulties understanding and adapting to local mentality and are more wellcome in training future trainers and consultants.

When it comes to education and training service providers, SFARM identified the organization “type” of the local service providers as a crucial factor affecting the quality of market supply<sup>13</sup>. Majority of the local service providers are individuals (mostly unregi-

<sup>13</sup> The majority of the interviewed service providers, more than half, exist more than 9 years, which illustrates that the service providers in this sector have a long tradition. The companies existing 3-6 years make 25 % of the interview process sample, while the number of companies between 7-9 years of existence is the smallest, only 10% of the sample.

stered), without sufficient capacity to support larger companies' needs. There is limited number of education and training providers with larger capacities and they are mostly located in the capital city, while the users of the services are in other parts of the country. Thus, the location of the training is not on a satisfactory level.

Most dominant clients are individual farmers (43%), followed by the limited liability companies (37%). NGOs are also training services users, mostly interested in organizational and management issues such as organizational development, strategic planning and funds application and management. The joint-stock companies portion as a user of the agriculture services is only 3%. According to SFARM research, main focus areas for trainings are: Introducing of new Innovative Technology and Technical skills improvement; Business and Managerial skills improvement; Improvement of the quality, quality standards and quality system implementation; Sustainable Management of Natural resources, Landscape conservation and Environment protection.

Most attractive topics are: New agriculture production technologies, Good Agricultural Practice, Entrepreneurship, Alternative energy sources, Farm Management and the introduction of farm accounting, Farmer forms of association-cooperatives, New technologies for processing and packaging, Effect of climate change on future agricultural production, Organic production-regulative and practical experience and Development of new products in food industry.

## CONCLUSIONS

In the Macedonia, more than a half of agricultural population is with primary or incompleting primary education, which is almost half of the population without education. In the past few years, a progress has been

made in the field of education and training. However, the country's capacity to implement adopted legislation is still not sufficient. Nevertheless, further efforts are still needed to implement the national reform strategy and to stop decreases in numbers of enrolled and graduated pupils and students in agriculture and veterinary vocational schools and study programmes.

Current supply of trainings in agricultural sector in the Macedonia is characterized by the provision of soft skill training. In the near future stress should be put to the quality standards, environmental protection and rational use of the natural resources. The weakest part of delivery methods is the proportion of practice and theory. Theory is still dominant in lectures (70:30). Another weak element is the limited use of methods for evaluation of individual training. Training evaluation is a control mechanism that enables constant improvement of training.

Regarding the period of training, "out-of-season" and "on-site" training held on farms, where farmers can practically learn how a technology can be implemented, should be preferred. Efforts should be put towards balanced targeting of the participants according the regional distribution, different sectors and typology of farms. As for the institutional support, creation of national database of farmers based on extensive demographic and socio-economic data is crucial for conducting successful communication campaigns. Additionally, in the short run, National Register of training providers should be established, as well as a system and financial construction for the larger coverage of the target population.

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