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The Seminar

**AGRICULTURE AND RURAL DEVELOPMENT -
CHALLENGES OF TRANSITION AND
INTEGRATION PROCESSES**

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EDUCATION IN TRANSITION IN TERMS OF THE DEVELOPMENT OF AGRICULTURE AND RURAL DEVELOPMENT¹

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Abstract

The key to success and competitive agriculture are the ability of adaptation, dissemination and application of new technologies for faster modernization which requires general education. The application of knowledge must be accompanied by improvement of the educational structure of the population that also has an impact on the modernization of agriculture and intensive rural development (Marinkovic, 2009., Mojic, 2011.). In the process of transition, education has a significant role in the modernization, of agriculture and rural development (Miladinovic, 2011.).

The process of rural development and modernization of agriculture in Serbia requires the introduction of modern technologies and skilled labor force. Thus, we need human resources to acquire new knowledge and skills and use them for faster modernization. Based on the Census data and relevant literature we are looking into the education and educational structure of the population of Serbia (by regions, areas and settlements).

The results indicate that in the period of transition education structure have been improved. However, there continue to be differences in the educational structure of the population (by gender, age, regions, areas and settlements).

The educational structure of the rural population is less favorable compared to urban. The share of the population in rural areas, without any education, through incomplete primary education to primary education, by gender ranges for males from 17.66 to 50.24% and for females from 82.34 to 49.76%.

Key words: *education, education structure, agriculture, rural development, transition.*

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1. Introduction

In Serbia in the period 1990-2000 we have witnessed major social changes. The state of society had an impact on the changes in education. In the first decade of this century, there have been significant changes in the sphere of education and education policy (years 2001, 2004 and 2008). With the social changes in Serbia reforms in education also taking place. The process of modernization in Serbia takes place following the example of other European societies. The process of transition has slowed down a series of reforms. However, without an effective system of education cannot be imagined the development of modern society. Our society is faced with a number of consequences which is reflected in the education. Education is in transition from a traditional to a modern society.⁴

Reforms in education and educational process aimed at changes to the structural determinants of educational system, acceptance of the values of the educational system of Western countries, educational content adaptation to modern needs, etc.

Education is an organized, systematic process of transferring scientific knowledge to the young generation. To the educational system of any society belongs one of the most important roles in the cultural and social reproduction of the population. Education should be designed so as to become a significant factor in the development of society and economy, new challenges and adjustments.⁵ Therefore, the main task of education is adapting of man to dynamics of time and encourage the development of skills and abilities that should facilitate its ability to adapt to social changes.⁶

Transition in Serbia is through the process of harmonization of obsolete standards in all areas of social life as well as in education with the standards of the European Union. One of the most important jobs is at the level of of educational system, which should meet the requirements of reform and modernization. "In that sense, the Serbian Ministry of Education issued a study of the strategic development of education 2004th. The study is the proposal of the new education policy of pre-

⁴ Avramovic Zoran (2011). Transition and modernization challenges in Serbian education, in: Mitrovic, LJ. (eds.) Tradition, modernization, identity, Faculty of Philosophy, Nis, p. 355-367

⁵ Jelic Sreten (1997). Human resources and new technologies, factors of development of human society in the process of social differentiation, Conference: "The causes and consequences of social differentiation in our society today," Faculty of Law, Pristina, Proceedings, p. 243-256.

⁶ Miladinović Slobodan (2011). *Modernization in Serbia and the issue of education reform*, New Serbian Political Thought, Special Issue, Vol. XIX, No. 2, p. 25-52.

university education in Serbia, in the context of the reforms after the 2000th, in accordance with the educational policy of the developed European countries.⁷

In general, most analysts agree that opportunities for Serbia, after the political, economic and social reforms, continuing for more than a decade of violently delayed transition, are characterized by dominant negative characteristics, especially:

- Slow economic growth, which limits the scope of employment of all categories who have lost their jobs, including those working in the „gray zone“;
- Unsatisfactory overall employment in relation to the total population and active population;
- Unfavorable structure of employees in all sectors (primary, secondary, tertiary);
- A very high rate of open (registered) unemployment;
- Unfavorable age and education structure of the unemployed;
- Long waiting for employment;
- High hidden unemployment (a surplus of employees);
- Relatively low labor mobility (the inflexibility of the labor market);
- High employment in the gray economy.⁸

It is obvious that the education sector has a number of key issues including social inequality in education, dropout rate of high school pupils and students during education and non-compliance of the need for manpower and educational and professional backgrounds who are educated, poorly developed mechanisms for improving the internal and external quality of education, poor outcomes of efforts to decentralize education management, etc.⁹

The educational structure of the population is connected to the other structure and the socio-economic, cultural and other conditions, influences and changes. The basic characteristics that are considered in the analysis of the educational structure of the population is literacy and educational background.

⁷ Jovanovic Natalija (2011). *Education in Transition*, Journal Culture of Polis, vol. VIII, no. 15, p. 335-340.

⁸ Marinkovic Vladimir (2009). *Human Resources under the challenges of globalization*, Foundation Andrejevic, Belgrade.

⁹ Petrovic Jasmina (2011). *Education in Serbia: the reality and the media image of reality*, the magazine New Serbian Political Thought, Special Issue, Vol. XIX, No. 2, p. 119-150.

2. The objective and method

The paper presents the educational structure of the population according to some determinants (literacy, educational attainment, territory, region, age, gender, settlement), based on the statistics that have been published in the editions of the Statistical Office of Serbia, the analysis of documents and relevant literature.

Agricultural production is the main activity of a significant part of the population in rural areas, primarily farms. Development of agriculture and other sectors can be an important factor in the development of rural areas and rural development at all. A special role in the rapid development of agriculture can have improvement of the educational structure of the population in rural areas and farms

3. The research results

3.1. Educational structure by regions

Results of the Census in 2011th show continued downward trend in the number and share of the illiterate population in the total population. Serbia illiterate population (aged 10+) covers 127 463 persons, or 1.96%. Compared with the data from the census in 1991st, the proportion of illiterates decreased by 3.29 times in the 2011th (Figure 1).

Significant differences in the shares of illiterate reported in previous censuses, which exist between regions, are conditioned by the level of socio-economic and cultural development, still exists, even though the apparent tendency of their improvements. Share and number of illiterate people in the regions is uneven (Table 1).

Table 1: Illiterate Population aged 10 and over in the regions of Serbia in 2011th

Territory	Total	%
The Republic of Serbia	127,463	1.96
Belgrade region	12,429	0.83
Vojvodina region	27,823	1.59
Šumadija and Western Serbia region	43,722	2.38
Southern and Eastern Serbia region	43,489	3.05

Source: Census of Population, Households and Dwellings in the 2011th in Serbia, Population, education, literacy and computer literacy, Data by municipalities and towns, National Statistical Office, Belgrade, 2013, p. 103.

The structure of the illiterate population by age shows that over 80% were illiterate persons with 50 or more years of age, of which 70.52% with 65 years or more, while only 3.54% of illiterate population is up to 19 years of age (Table 2).

Table 2: Illiterate Population in Serbia aged 10 and over in 2011.

Year	%
Total	100
Up to 14 years	1.50
15-19	2.04
20-34	7.70
35-49	7.01
50-64	11.23
65 and more	70.52

Source: Census of Population, Households and Dwellings in the 2011th in Serbia, Population, education level, literacy and computer literacy, Data by municipalities and towns, National Statistical Office, Belgrade, 2013, p. 103.

The largest share of illiterate people is in the municipalities of Bojnik (9,09%), Crna Trava (7.58%), Gadzin Han (7.28), Merosina (6.77%) and Medvedja (6,29). The least part of illiterate people is in the municipality of Stari Grad 0.14%, Vracar 0.18%, Savski venac 0.24%, Rakovica 0.43% and Medijana (Nis) 0.44%.¹⁰

Based on the analysis of recent census data is observed uneven distribution of educational structure of the population in regions and areas. In addition, there are also inequalities in education. Serbia's education system is a powerful mechanism for social selection and reproduction of the social structure, especially in terms of higher levels of education.¹¹ It is necessary to create the environment and conditions for all levels of members of different social classes as a basis against social exclusion. The Law on University Education (Official Gazette of RS 76/05) is aimed at providing everyone equal access to higher education and training opportunities throughout their lives. The Law on Student Standards (Official Gazette of RS 18/2010) obliges a country to identify disadvantaged social classes in higher education and provides for measures to support access to and completion of this level of education.

3.2. Educational structure by gender

Between the urban population and the rest of the population there are some differences in the structure of illiterates by gender. Differences in the level and structure of education of the population according to gender structure as part of socio-demographic structure of gender inequality is still present. So 2002nd in urban areas,

¹⁰ Press Release January 31, 2013, Census of Population, Households and Dwellings in the 2011th in Serbia, Book 3: Education level, literacy and computer literacy.

¹¹ Ibid, p. 123

illiterate women was 2.5%, or 5 times more than men. For example, in urban areas, the illiteracy rate ranged from 0.3% in the municipality Vracar to 12.0% in the municipality of Bujanovac. Among the male population, the illiteracy rate ranged from 0.1% in the municipality of Stari Grad, and 5.8% in the municipality of Bujanovac, while the highest 18% of illiterate women was in Bujanovac.

In other areas (i.e. rural), there were 9.92% of illiterate women, which is 6 times more than men. The range between the highest and lowest illiteracy rates ranged from 1.5% in the municipality Kanjiza to 18% in the municipality of Kursumlija. Among the male population, the lowest rate in Lapovo (0.3%) and highest in Kursumlija (6.3%). Among the female population, the illiteracy rate ranges from 1.9% in Kanjiza to 30.3% in Kursumlija. According to the census 2011th there was a reduction in the number and share of illiterate people. However, there are substantial differences in the proportion of illiterate population between urban and rural settlements. Among the residents of other settlements is about three and a half times more illiterate than among the population of urban settlements. The differences were more pronounced among women, the proportion of illiterate women in other settlements is four times higher than in urban settlements (Table 3).

Table 3: Illiterate population aged 10 and over by gender and type of settlements in Serbia 2002-2011.

Type of settlement	2002.			2011.		
	Total	M	F	Total	M	F
Urban						
Illiterate	59,076	9,096	49,980	39,701	7,856	31,845
Rate of illiteracy.	1.55	0.50	2.49	1.03	0.43	1.57
Other						
Illiterate	173,849	26,175	147,674	87,762	14,975	72,787
Rate of illiteracy.	5.90	1.79	9.92	3.31	1.13	5.48
Total	Total	M	F	Total	M	F
Illiterate	232,925	35,271	197,645	127,463	22,831	104,632
Rate of illiteracy.	3.45	1.08	5.66	1.96	0.72	3.12

Source: *Population, Census of Population, Households and Dwellings in th 2002nd 4, education and literacy, 2003, p. 16-17 and Population Census, Households and Dwellings in the 2011th in Serbia, Population, education, literacy and computer literacy, Data by municipalities and towns, National Statistical Office, Belgrade, 2013, p. 104 and authors calculations.*

Education plays an important role in improving the position of women in society. It has long ceased to be a privilege available men, and reduced the difference

between the sexes. However, the elimination of differences in education between the sexes is not a sufficient reason for the elimination of social differences between the sexes.

3.3. Population structure by educational attainment

The educational structure of the population by educational attainment between the sexes showed significant differences. Differences in the number of men and women are higher in lower educational levels (no primary education and incomplete primary education). Participation of women at the level without primary school a nearly 4.4 times bigger, while on the level of incomplete primary education is almost twice that of men. The number of women with primary education level is higher by 15.5% than men. At the level of secondary school education are more common in men by 15% of the female population. However, at the level of higher education there is a more women in relation to men (Table 4).

Table 4: Population 15 years and over by educational attainment, gender and type of settlement according to the Census 2011th

The Republic of Serbia	Total in %			Urban settlements			Other settlements		
	T	M	F	T	M	F	T	M	F
No school	100	18.57	81.43	100	20.44	79.56	100	17.66	82.34
Incomplete primary education	100	35.60	64.40	100	26.64	73.36	100	39.36	60.64
Primary education	100	46.40	53.60	100	41.83	58.17	100	50.24	49.76
Secondary education	100	53.51	46.49	100	51.28	48.72	100	57.69	42.40
Higher education	100	49.70	50.30	100	48.83	51.17	100	52.94	47.06
High education	100	47.35	52.65	100	47.13	52.87	100	48.95	51.05
Total	100	48.26	51.74	100	47.10	52.90	100	49.87	50.13

Source: *Ibid.* p. 34/35 and authors calculations.

Regarding the structure of the population by educational attainment between the two censuses in 2002 and 2011. the largest share belongs to the secondary education 41.07% and 48.93% and primary education with 23.88% and 20.76%. Thus, compared to Census in 2002. educational structure of the population improved and we can observe increase participation of the population with

secondary education to 7.86% while incomplete primary school qualifications has reduced participation from 16.18% to 11.00%. Also, with higher education has increased the percentage of 4.07%.

The largest share of people without any education and with incomplete primary education were recorded in the municipalities Ražanj 37.92%, Osecina 36.98%, Gadzin Han 35.85%, Rekovac 35.14% and Crna Trava 34.84%. The largest share of people with higher education were recorded in the municipalities Vračar 52.34%, Stari grad 50.20%, Savski venac 46.62%, Novi Beograd 40.61% and Medijana (Nis) 34.73%.¹²

Table 5: Population 15 years and over by educational attainment, per census 2002. and 2011.

	Census 2002		Census 2011	
	Total	%	Total	%
The Republic of Serbia	6,321,231	100	6,161,584	100
No school	357,552	5.66	164,884	2.68
Incomplete primary education	1,022,974	16.18	677,499	11.00
Primary education	1,509,462	23.88	1,279,116	20.76
Secondary education	2,596,348	41.07	3,015,092	48.93
Higher education	285,056	4.51	348,335	5.65
High education	411,944	6.52	652,234	10.59
Unknown	137,895	2.18	24,424	0.41

Source: Census of Population, Households and Dwellings in the 2011th in Serbia, Population, education level, literacy and computer literacy, Data by municipalities and towns, National Statistical Office, Belgrade, 2013, p. 34/35 and authors calculations

"However, the educational structure of the population in Serbia is still very unfavorable (including young people under 35 years). Nearly a third of citizens of Serbia have not completed or only completed primary school, and nearly 30% of young people "turns out" of the education system (in comparison, the share in EU countries is 15%). In Serbia only every fifth person aged 31 to 35 have a university degree (compared to one-third of the EU)¹³

Population structure according to education in urban and other areas indicates differences that are especially significant in persons without any education and incomplete primary education. Education of the population of other settlements has

¹² Ibid

¹³ Mojic Dusan (2012). *Educational resources, orientation and action of youth: Youth - our present, exploring the social biography of Serbian youth*, Smiljka Tomanovic (et, al), Cigoja press: Institute for Social Researches, Faculty of Philosophy, Belgrade, p. 98/99

been neglected and the level of education unfavorable. No school and primary school education has 51% of the population of other settlements. Particularly is inadequate structure of agricultural holdings members by educational attainment. So in the farm not completed primary school has 51.23% of the total number of households members and primary school 32.87%. Thus, in the farms by educational attainment prevailing members who have not completed primary school or with primary education, about 84% and 16% of the members of households have secondary, or higher education.¹⁴

On the basis of differences in the age structure between the sexes, we can assume that the differences in education are determined by higher share of elderly women than men.

The educational structure of the population in urban and other areas indicates differences primarily between regions and areas. The differences are particularly striking in comparison to the national average. These trends point to the (non) availability of educational institutions to the residents of certain areas and regions.

Table 6: Population 15 years and over by educational attainment by region in 2011th

Region	Total	No school	Incomplete primary education	Primary education	Secondary education	Higher education	High education	Unknown education
Serbia	100	2.68	10.99	20.76	48.93	5.65	10.58	0.42
Belgrade	100	1.17	4.08	13.59	52.50	8.21	19.60	0.49
Vojvodina	100	2.32	10.68	21.76	50.90	4.90	9.18	0.26
Šumadija and Western Serbia	100	3.39	13.90	23.42	47.21	4.71	7.00	0.37
Southern and Eastern Serbia	100	3.77	14.98	23.34	44.95	5.08	7.38	0.50

Source: *Census of Population, Households and Dwellings in the 2011th in Serbia, Population, education level, literacy and computer literacy, Data by municipalities and towns, National Statistical Office, Belgrade, 2013, p. 32 and authors calculations*

¹⁴ Jelic Sreten., Tatjana Jovanovic (2006). *The demographic structure of agricultural holdings Serbia*, Monography of Agriculture and Rural Development of Serbia during the transition period, International experience in the transition of the agricultural sector and rural areas, Serbian Association of Agricultural Economists and Institute of agroecology, Faculty of Agriculture, University of Belgrade, p. 71-89.

Having in mind educational structure of the population and changes occurring in the transition process, and still negative tendencies by undeveloped agricultural resources, machinery backward and underdeveloped infrastructure, availability of schools, etc.. that inhibit not only the modernization and development of agriculture, but also other activities and rural development and development of the regions and areas.

4. Conclusion

Education is an important factor in the development of agriculture and rural development. In rural areas the educational structure of the rural population is alarming, especially in certain regions, areas and communities, which affects the development of rural areas and rural development. Due to the unfavorable educational structure the process of modernization of agriculture and other activities in rural areas is slowed. Analyzing the educational structure in the transition process data show that it is less favorable in other settlements than in the cities, and above all, with farmers and members of agricultural households. Also, there is a reciprocal relationship between education structure and the development of agriculture and rural development and development of the regions and areas. Improving the educational structure of the population can affect the improvement of agriculture and rural development in regions and areas.

Education in transition process in the context of the development of agriculture and rural development is in the process of changes. The main determinants of these changes are as follows:

- In Serbia in the period from 1991 to 2011 is reduced the number of illiterate persons, from 418,942 to 127,463, or 30.42%;
- The lowest share of illiterate people is in the Belgrade region, and the largest is in the Southern and Eastern Serbia, 3.05% of the total number of illiterates;
- The rate of illiteracy in cities is 1.03%, and in other settlements 3.31%, which indicates a significant difference. The rate of illiterate male population in cities was 0.43 and 1.57% of the female population, in other settlements the share of illiterate men is 1.13% and 5.48% of women;
- Over 70% of illiterate people are older than 65 years, and about 3.5% of illiterate people is under 19 years old;
- The percentage of people with no education and with incomplete education is reduced at 2.68% and 11.00% of the total population aged 15 and over. Share of educated people who have completed secondary education increased from 32.13% to 48.93%, higher education from 3.84% to 5.65%, and high education has increased from 5.13% to 10.59%;

- Differences in educational levels still exist among the population of urban and rural settlements in Serbia. While the largest share of the population of urban settlements is with secondary education, in other settlements population with basic education is prevalent. Large differences in the population of these two types of settlement are in the proportion of people without primary schools, which are more than three times higher in other than urban settlements.

It is particularly unfavorable educational structure of the agricultural population and members of the farm, which influences the development of agriculture and rural development.

What can be done about improving the parameters of the educational structure of the population, especially in other settlements, and also to prevent further extinction of villages and development of rural areas, as a prerequisite for a better life for all citizens?

Among some of the measures that may deliver the results we noted the following:

- Improvement of education, health and improvement in gender equality;
- Making plans for adult education (additional training, retraining, special schools);
- Increase funding of agricultural support and investment in rural infrastructure, and rural non-farm activities;
- Increase the social funds for rural population, thereby improving the current situation that shows the poorer rural population;
- To support individual farmers with medium and large farms, primarily through the provision of soft loans;
- To establish a rural development policy, which would cover most of the rural population, who owns mostly small holdings;
- Create better economic conditions for employment and hence population stay in rural areas, primarily through the development of small and medium enterprises, to open a facility for the processing of agricultural products and the development of communal infrastructure;
- Providing funding for the development of rural and hunting tourism;
- Equal distribution of budgetary resources, and better control of distribution;
- Improvement of mechanisms to ensure gender equality;

Urban development in other settlements includes not only roads and telephones, but it's a way of life, why young people go to the cities.

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