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SPATIAL DISPARITIES IN THE EDUCATIONAL SYSTEM WITHIN THE LAND OF SEVERIN

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ABSTRACT – The development and the diversification of the economy in the Land of Severin, especially in the rural space, depend on the level of education, knowledge and skill. Though the improvement and the maintenance of an adequate level of basic infrastructure is an important element in the social-economic development, education and the professional formation are the "engine" for a good development. The difficulties faced by the educational system are mainly generated by the lack of material and human resources, which negatively influenced the level of education and the distribution of educational services within the two areas, urban and rural.

Education and formation are essential for the human community living in the Land of Severin, but regarding the scholar infrastructure, there are evident discrepancies between the rural and urban space: the quality of education is low, on the one hand because of the poor endowment of educational infrastructure and, on the other hand, due to the teachers' level of experience/ skill. Another problem faced by the system of educational services is the difficulty to attract skilled personnel in rural areas.

Keywords: educational system, economic development, rural space, education units, didactic personnel

INTRODUCTION

The problems present in the educational system within the Land of Severin are mainly similar to those within the sanitary system, both services being financially neglected after 1989, both at national and regional level; the indigence of the state educational system growing even more severe based on missing funds and a weak and instable economic development at the regional level. Compared to the rest of the European countries where the expenditures for education represent 5.31% of GDP, in Romania, during the last years, it represented 3% and 4% of GDP, registering the lowest level allocated for education regarding the expenditures.

The difficulties registered in the educational system are mainly generated by the lack of material and human resources and by the consequences determined by the outage of the reformation process, which influenced the educational system from the urban and rural space in the Land of Severin.

The access of population, especially from the rural space, to basic education, but also to other educational levels (secondary and academic), is first of all restricted by the deficient transport services, having a negative impact upon the teachers' urban – rural flow, but also by the high schools that are missing in the rural space. The appropriate infrastructure is one of the essential conditions for the economic development, beside the rest of the other domains of human and social development. The access to education is necessary for regional development, especially for the rural areas representing 92% of the analysed region, but including only 26% of the population (38,887 inhabitants on the 1st of July 2010). Besides the poor material resources existent in the rural space within the Land of Severin, the small incomes consistently contribute to the increase of school abandonment or the increase of the number of persons (between 4-19 years old) not registered to attend the compulsory levels of education. In the end, the reduced level of instruction has to be perceived as a major problem, as it reflects in the quality of the labour force, especially in the rural area, being a restrictive factor for the economic development of this region. In addition, the low level of education decreases even more the

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population's possibilities to find a job. The diversification of economic activities, which can eventually lead to a development of the analysed region, is not supported by workers with a qualification adequate to various types of jobs because the educational system has not been adapted to the specific requirements within the rural space.

The case of the educational system, corroborated with the strategic trends of educational development at the national and European level, determine an approach of the reform in education from a new perspective that aims at a systemic, continuous, supported and adequate reformation.

Though we can state that, in respect to the modernization of education units, significant progress was done each year, in this field, there are still a lot of things to be done in order to reach a high quality level for the educational system and to reduce the present disparities existent between the rural and urban space.

DATA AND METHODS

The study was carried out by using the statistical data collected from the Institute of Statistics in Drobeta Turnu Severin and analysed to underline the aspects regarding the educational system from the studied area, both by outlining the major problems and also by finding adequate solutions for a long-term improvement of the system within the Land of Severin.

For a better understanding of the above-mentioned phenomena, the data and the results required a graphic representation in order to emphasize the spatial distribution of the studied elements, as well as the size of the actual phenomenon. In this respect, I realized some column graphics and maps using the ArcGis 9.3 software.

The relevant final stage for the study was the analysis and the interpretation of the results obtained, which completed the general image over the educational system within the Land of Severin, marking the negative aspects, the problems that determine a defective system influenced by factors that are internal and external to the respective region.

Using the statistical data available for 2009, I have calculated *the index of accessibility to education*, the values being represented on accessibility maps to different types of educational services, starting with the ones that are compulsory, primary and secondary, up to the facultative ones, college and higher education (academic and post academic). Besides the accessibility of the population to educational services, I have calculated other basic indicators to emphasize the major disparities existent, at regional level, between the two spaces. One is *the gross rate of school inclusion* or indicators based on which I made comparative analysis regarding the human resources (*the average number of pupils/teacher*) and the material resources (*the number of schools from the pre-academic education*).

By using the descriptive analysis of the data, I presented the distribution of the values for the indicators calculated in relation to the standards or the reference objectives established by the National System of Indicators for Education. Subsequently, I made a causal analysis to explain the cause and effect relations existent between the observed phenomena. In addition, by processing the statistical data regarding education, I obtained the necessary information to describe the functionality and the level of performance of the educational system and to analyse the evolution in education in time and space.

RESULTS AND DISCUSSIONS

The scope of a geo-spatial approach of education units is to apprehend the way in which the spatial distribution, mainly deficient, of some general social services, leads to the occurrence of territorial disparities aimed to keep different chances of human development for the social categories considered equal from the political point of view (Tudora, D., 2009).

The easiest form to emphasize such differences overlaps with the ratio between the needs of a community and the technical-economic and political-social possibilities of a territory to answer these needs. In this respect, the infrastructure of the territory is one of the major problems in providing the access to education in the rural space. The existence and the efficiency of the educational services within the rural areas are affected by the significant lack of transport infrastructure and its deficiencies that affect not only the economic development of the region, but also the quality of life. The most important needs are connected to the quality and the density of the transport network that creates

difficulties regarding the access of the educational services. The access of the population living in villages to the educational services is restricted by the deficient transport services, with a negative impact on the teachers' urban-rural mobility.

The synthetic index of accessibility to education has the advantage to estimate the accumulation of social capital (Flores M., Rello F., 2003; Putman R., 1993; Coleman J., 1988), being calculated using the following formula:

$$A_{ed} = A_{ep} + A_{ep} \times A_{eg} + A_{eg} \times A_{es} + A_{es} \times A_{eu}$$, where:

Aed represents the accessibility to education; *Aep* is the accessibility of the population to primary educational services; *Aeg* represents the accessibility to secondary education; *Aes* represents the accessibility to high school education; and *Aeu* represents the general accessibility index to services of higher education. Each of these partial indicators was calculated using specific formula regarding the accessibility of population to different levels of education and the local and regional polarizing centres.

Summarizing the values obtained by calculating the five partial indexes, I obtained the definitive aspects of the educational services at the regional level. The mapping process allowed me to observe and analyse the possible concentrations of certain critical situations, which need the intervention of actors, having the power to decide and monitor, in order to improve the social conditions necessary to build the human capital on a long term basis (Tudora, D., 2009) (Figure 1).

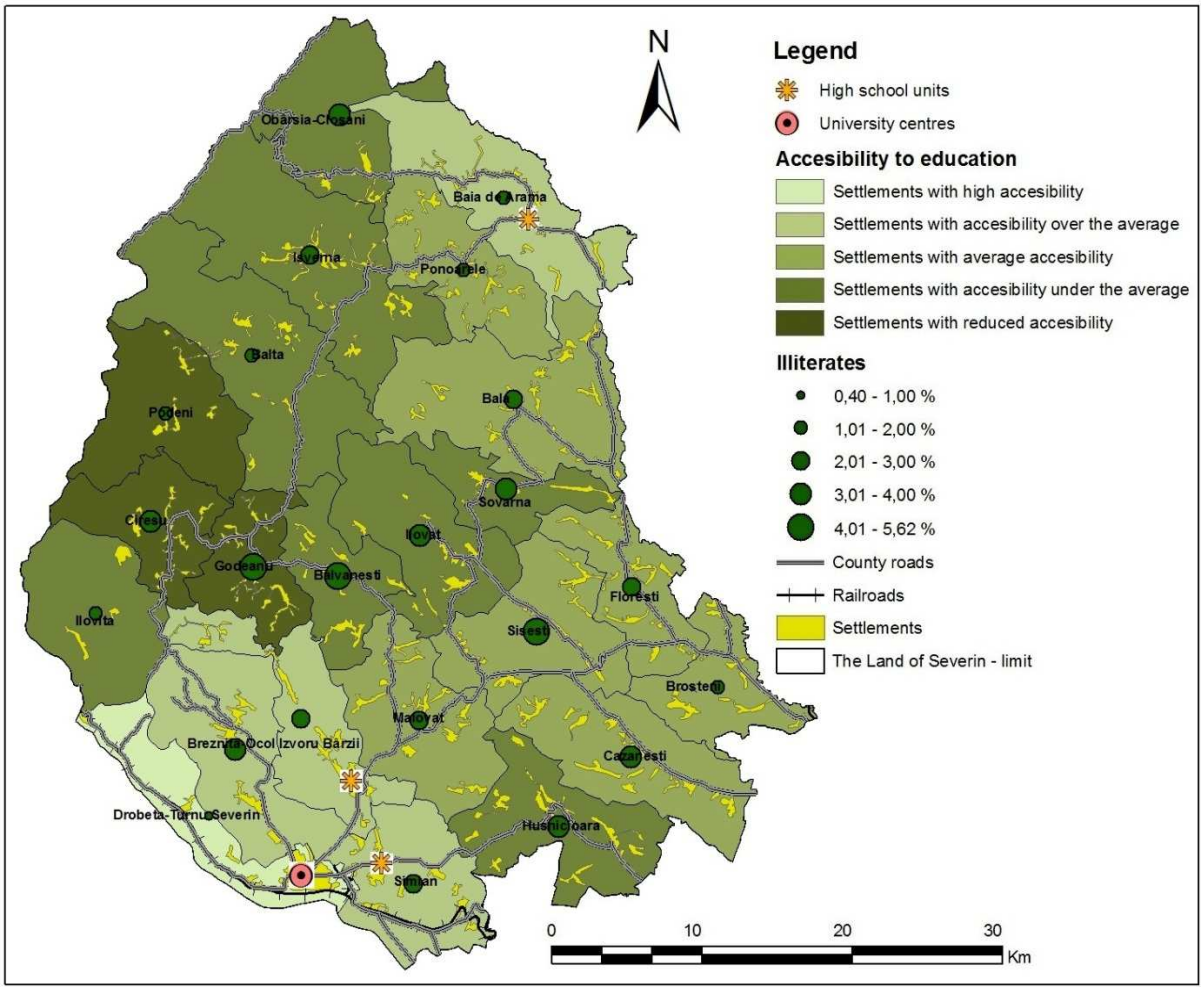

Figure 1. *The typology of the settlements within the land of Severin depending on their accessibility to the educational services*

Among the existent settlements, the city of Drobeta Turnu Severin has the highest index of accessibility to education in the entire region. Besides its own structures that polarize the services of primary and secondary education, the town is the only settlement in the region that offers higher education services as well.

If we see accessibility through the presence of the roads of national importance and railroads, we can notice that only one settlement included in this category benefits by the proximity of national roads and railroad transportation means (Figure 1). Around the only town with complex educational services, influence circles are developing that polarize the educational services. They started to appear with the establishment of the new subsidiaries of the universities of Bucharest and Craiova. Despite all this, Drobeta Turnu Severin is not an academic centre of maximum importance at regional level, the highest flux of students continuing to go to the traditional academic centres located outside the studied region (Craiova, Timişoara, or Bucharest).

The settlements that obtained an accessibility index over the regional average are those included in the administrative territorial units of Baia de Aramă, Şimian, Izvoru Bârzii and Breznița-Ocol. The localization of settlements peripherally, in relation with the main system of roads, can be explained by the presence of education units of secondary level, having the capacity to polarize the rural areas that cannot provide secondary or college education. Three of the administrative territorial units included in this second category are located in the immediate area of the city of Drobeta Turnu Severin. The town of Baia de Aramă, located in the north of the region, is the only settlement having one high school, polarizing the rural settlements from its administration, but also the entire rural space from the northern half of the region starting from Podeni, Ilovăț and Şovarna. The population from the rest of the administrative territorial units located in the south of the region may choose the high schools existent in Izvorul Bârzii, Şimian or Drobeta Turnu Severin.

The settlements included in the same category, with an education index close to the regional average, with primary and secondary educational services, but peripheral in relation to high school units, are concentrated in the eastern part of the region and are close to national roads (Figure 1). These settlements represent almost 45% out of the total number and they belong to the following communes Ponoarele, Bala, Floreşti, Şişeşti, Malovăț, Broşteni and Căzăneşti. They have average conditions to provide educational services, covering mainly the services of lower rank, but having a high accessibility to high schools and higher educational services due to the presence of modern roads.

The fourth category includes the settlements with accessibility under the regional average, representing only 28% out of the total number of localities, being exclusively villages. Except the settlements from the commune of Huşnicioara, they are concentrated in the western and central part (Obârşia Cloşani, Izverna, Balta, Şovarna, Ilovăț, Bâlvăneşti, and Ilovița), occupying the mountain and piedmontan areas of the region. The lack of modern roads place these settlements peripherally to the service of higher education, but they benefit by their own primary and secondary education units, although they have, most of the times, a poorly qualified human capital.

The settlements with a reduced accessibility to education are included in the category of isolated ones (Podeni, Cireşu and Godeanu), of small demographic dimensions and with aged population. A part of these settlements do not even have primary or secondary education units anymore, the pupils being forced to go, most of the times, in the commune seat or in the neighbouring villages. These settlements represent only 7% and they are underprivileged in relation with their own commune seats due to the inappropriate roads. Often, these villages become isolated during the winter or after periods with heavy rains that affect the rural roads and paths connecting these settlements.

Analysing the percentage of illiterates, at the level of the administrative territorial units, we can observe that the highest percentages of illiterates (4% – 5.62%) are registered in the communes included in the last two categories of accessibility to educational services (Bâlvănești, Godeanu, Şişeşti). The difference between the rural and urban space, as regards the illiteracy rate, is 2.44%. Only 0.51% of the population within the urban area is illiterate, while at regional level, in the rural area, the percentage of illiterates reaches to 2.95%. This difference between the two living environments indicates the need to extend the primary education and the special programmes for adults that cannot read and write, with a priority in the rural isolated areas.

The human capital is of great importance for development, and the development and the diversification of the economy in the Land of Severin, especially in rural areas, depend on the level of education, skills, and qualification. Although the improvement and the maintenance of an adequate level for the basic infrastructure is an important element in the social-economic development, the professional formation is the basic pillar for a healthy development.

Besides the accessibility of the population to educational services, another basic indicator analysed in order to emphasize the major disparities existining at regional level, between the two living environments, is the gross rate of school inclusion. Nevertheless, there are also a series of indicators that enabled a comparative analysis of the human resources (average number of pupils/ teacher) and the existent material resources (the number of schools and other education units).

The gross rate of school inclusion for all education levels, expressed in percentages, represents the total number of kindergarden children, pupils and students included in all levels of education, irrespective of their age. The rate is calculated as ratio between the total of registered pupils and the population having the official age corresponding to all levels of education (3-23 years old). It is calculated using the following formula:

$$RBC^t = \frac{E_t}{P_{tv}} \times 100, \text{ where:}$$

RBC_t – the gross rate of school inclusion in all levels of education in the academic year t; E_t – the total number of pupils and students included in all levels of education, irrespective of their age, in the academic year t; P_{tv} – the total population having the official age corresponding to all levels of education (3-23 years old), in the academic year t.

I have calculated the gross rate of school inclusion for 2002 and 2009 to emphasize the general level of participation to education, both in rural and urban environments, in the Land of Severin. When I calculated the values of this index, I also included the higher education in the levels of education, though it is not compulsory.

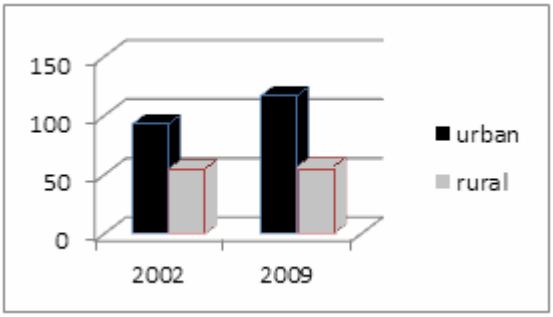

Figure 2. *The gross rate of school inclusion on living environments in the Land of Severin, in 2002 and 2009*

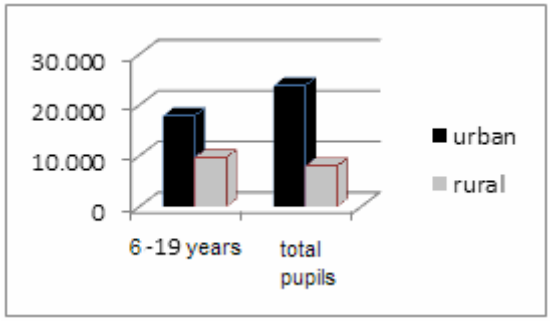

Figure 3. *The number of pupils and the population of scholar age on living environments in the Land of Severin, in 2009*

The values of 92.16% for the gross rate for 2002 and of 117.54% for 2009, obtained in the case of the urban area, indicate the fact that in 2002, the number of available places is close to the one requested in order to allow the general access to education for the population having the official age corresponding to each level of education. In 2009, in the case of urban area, a value of 117.54% was obtained, which can be explained by the inexactness of statistical data processed. In Romania, the official age for going to school is six years old, but, at parents' request, the age of seven is also accepted. Therefore, the statistical data regarding the inclusion of children with an age lower or higher than the one officially accepted is altered. In addition, there are cases of pupils repeating a class, situation which was not taken into consideration, due to a lack of accurate date. For an accurate interpretation, it is necessary to have additional data about the percentage of persons repeating the class or about those who go to school later.

However, there are major differences if we compare the values obtained for the two environments (Figure 2). Therefore, the value of gross rate for school inclusion in 2002, in the rural

area, is 55.45% indicating a low participation to education. This value rises insignificantly in 2009, reaching to 56.75% and being only half of the gross rate of inclusion obtained for the urban area during the same year.

In order to emphasise even better the registered differences, I made a comparative chart using the data available for 2009, which shows the number of pupils registered and the population of scholar age. In this case, I included only the pupils registered in the primary, secondary and high school levels with the age ranging between 6 and 19 years (Figure 3). The number of pupils registered in the levels of compulsory education in the urban area is higher than the population having an appropriate age and actually living in towns. This difference may result from the number of pupils coming from the surrounding rural area and who attend the courses of the secondary level or of the high schools located in towns. This phenomenon is present because of two reasons: there are no secondary schools or high schools in villages or these rural settlements are close to towns and pupils prefer the modern education units in the urban area. According to the statistics, in the rural area, only 83% of the total number of persons (9,721) with an age between 6 and 19 years old attend a school.

A correlation between poverty and the degree of participation to education can be also made, the severity of the indicator stresses even more whether the minimum services provided are missing. In this respect, the stability of family incomes has a strong effect upon the participation to education. The children from families with small incomes are twice as much exposed to the risk of school abandonment compared to children coming from families that have a stable source of income. In the rural area, the situation is even more dramatic, because the main source of income is agriculture; the family members do not have a stable job or do not have a job at all. Other reasons for school abandonment, noticed especially in the case of children from the isolated rural communities in the mountain area, but also in the communities of Gypsies are, besides extreme poverty, the lack of transportation means and the weak motivation regarding the economic profit due to education. The reduced quality of education in rural areas, due to the lack of qualified didactic personnel, also acts as a demotivate factor.

Another important problem is represented by the difficulty in attracting qualified personnel in rural areas. Thus, the educational disparities between the urban and rural space is also noticed in *the number of pupils per one teacher* in a certain academic year. By reporting the number of pupils to the number of teachers, in 2009, in the case of all four levels of education – pre-school, primary, secondary and high school – I obtained values under 25. The number mentioned is considered to be perfect in providing the quality of the educational act. However, there are high differences, at the level of the administrative territorial units, for all levels of education in the Land of Severin (Figures 4a & 4b).

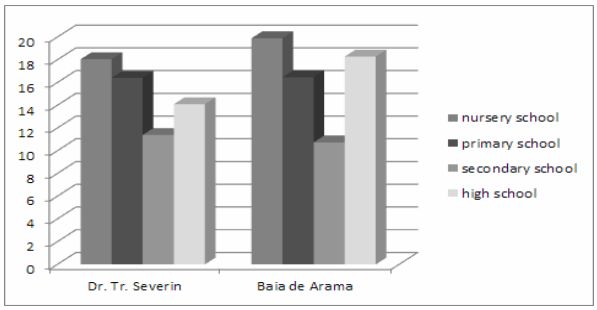

Figure 4a. *The number of pupils for one teacher, in urban areas, for all four levels of education*

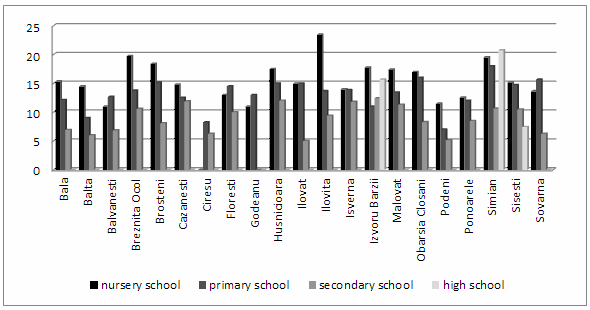

Figure 4b. *The number of pupils for one teacher, in rural areas, for all four levels of education*

Therefore, in the case of the first level, the pre-school, the differences are not noticeable; the values registered being almost similar for the urban area (19 children/ one kindergarden teacher) and the rural space (15 children/ one kindergarden teacher). In the communes of Bâlvăneşti, Godeanu and Podeni, a smaller number of children is registered for one kindergarden teacher (11 and 12, respectively). This fact is explained by the phenomenon of demographic aging, which characterizes all

the settlements in the above-mentioned three communes. The same minor differences are registered in the primary level of education, where the average is 16 pupils/ teacher, with smaller values in the rural areas, in communes such as Balta (9 pupils/ teacher), Cireşu (8 pupils/ teacher) and Podeni (7 pupils/ teacher). High differences are observed in the secondary level of education, where the number of pupils per teacher is extremely low (approximate 10 pupils/ teacher) and, in the same time, varies a lot from one administrative territorial unit to another. Thus, the maximum value is 12 pupils/ teacher (in urban areas is 11 pupils/ teacher), while the minimum value is 5 pupils/ teacher in the communes of Podeni and Ilovăţ. From the analysis of the statistical data available and in the context of a general trend of population decrease, we can notice that the school population decreased during the last period, especially between 11 and 15 years of age, namely the pupils from the secondary level of education.

If we look at the values obtained, we can state that the number of pupils per one didactic personnel is generally a good one, but, in this case, the problem of quality is given by the teachers' competitiveness and qualification and not by their number. Sometimes the small number of pupils for one teacher can also raise the question of financial efficiency, recommending the unification of classes or school units. Only this indicator does not reflect the quality of education, we should also take into consideration their experience, in the context of differences concerning the formation and qualification of the didactic personnel.

For analysing the material disparities, I inventoried all the school units in function in 2009, in the Land of Severin. The resulted situation is the following: 67% of the total number of kindergardens is located in 143 villages out of which 21 are commune seats and only 33% in the two towns. In the rural space, there is the highest number of primary and secondary schools, namely 83%. Out of the 12 high schools, existent in the entire region, only three are located in rural settlements in Şişeşti, Şimian and Izvoru Bârzii. As regards the higher education, in the city of Drobeta Turnu Severin, there is a subsidiary of the University of Bucharest and another one of the University of Craiova.

Unfortunately, the number of school units does not really indicate their degree of modernization and endowment. Most schools located in villages are not appropriate to provide the process of education to the normal parameters. For example, in the village of Negruţa, the primary school (class I-IV) functions in the same old building as the church and the total number of pupils is 6 for all four classes. A great number of schools do not have modern didactic materials or do not own laboratories or access to computers and internet. The material resources of the institutional educational system, where the education and the professional or special training are performed, are modernized and adapted to the requests and exigencies of the European Community in a share of 40%. By means of the new European projects, the managers of the school units took care to consolidate and modernize the buildings, to introduce in the education process the calculation techniques, the access to the information systems and electronic communication.

CONCLUSIONS

In the Land of Severin, there are 252 schools units, out of which 75% are located in villages and 25% in the two towns. The rural space is remarked through the high number of primary (I-IV) and secondary (V-VIII) schools, in contradiction with the small number of high schools (three high schools in Şişeşti, Şimian and Izvoru Bârzii). We can notice the fact that the high school educational services are concentrated in Drobeta Turnu Severin, which is the attraction pole for all types of services. It is followed by the town of Baia de Aramă, an attraction pole of local importance having only one high school.

The higher education (academic and post-academic) is present only in Drobeta Turnu Severin due to the subsidiaries of the University of Craiova (The University College and Faculty of Economic Sciences, Faculty of Engineering and Management of Technical System), the University of Bucharest (Faculty of Geography) and a subsidiary of Spiru Haret University. In addition, Gheorghe Anghel University was also established.

The human capital has a great importance for the economic development. The low level of instruction is reflected in the quality of labour force from the rural areas, which is a restrictive factor for the economic development in this area. In this respect, the structures of professional and primary

education are essential for the professional reconversion of farmers, most of them having only minimum knowledge about mechanics or other technical domains. Taking into consideration the fact that there are projects for the development of tourism in this region (about 80% of the region is included in the limits of two natural protected areas – The Geopark Mehedinți Plateau and Iron Gates National Park), I think it is necessary that the school units should prepare the labour force to be used in the process of tourism development.

The higher education has developed from year to year, its positive trend being given by the increasing number of students. It must also be taken into account the fact that new specializations will be created in the higher education that should prepare specialists in the domain of natural gas distribution, tourism (managers, guides, translators, highly specialised workers in tourism), naval transport and port exploitation.

For reducing the spatial disparities from the educational system in the Land of Severin, but also for supporting the social-economic development at the regional level, the following proposals are recommended:

- the organization of activities for additional preparation of the pupils coming from disadvantaged social-economic media (members of a gipsy community, children from poor families), in order to reduce social isolation and to increase their chances to social inclusion;
- committees should be established to grant assistance and support to the schools in the rural areas. These units should become providers of long-life formation and education through the direct implication of the didactic personnel in the special programmes aimed to educate the adults;
- granting financial stimuli to the didactic personnel working in the rural area;
- the modernization of the transport network in order to facilitate the access to the educational services.

REFERENCES

BÎRZEA, C. (coord.) (2005), *Sistemul național de indicatori pentru educație* [The National System of Indicators for Education], Ministerul Educației şi Cercetării – Proiectul pentru învățământul rural, Bucureşti.

COCEAN, P. (2003), *The typology of disfunctionalities within the political-administrative boundary stripes of North-West Romania*, Bulletin of the Serbian Geographical Society, vol. LXXXIII, Nr. 1, Belgrad.

IOSIFESCU, ŞT. (coord.) et al. (2005), *Managementul şi cultura calității la nivelul unității şcolare* [School Level Management and Quality Culture], Institutul de Științe ale Educației, Bucureşti.

POPESCU, CLAUDIA-RODICA (2003), *Disparități regionale în dezvoltarea economico-socială a României* [Regional Disparities in the Economic and Social Development of Romania], Editura Meteor Press, Bucureşti.

TUDORA, D. (2009), *Distribuția geografică a indicilor stării sociale a populației rurale din Moldova Apuseană* [Geographic Distribution of the Rural Population Social State Indices in the Western Moldavia], teza de doctorat, Iaşi.

*** (2004), *Indicatori de evaluare a educației şi formării profesionale. Studii comparative* [Indices for Assessing Education and Professional Development. Comparative Studies], EUROSTAT, Unitatea de Management a Proiectului pentru Învățământul Rural, pp. 23-25 Bucureşti.

*** (2006), *Metodologia cercetărilor statistice din domeniul educației* [Statistical Research Methodology in Education], National Institute of Statistics, Bucureşti.

*** (1992), *Recensământul populației şi locuințelor* [Population and Housing Census], National Institute of Statistics, Mehedinți.

*** (2002), *Recensământul populației şi locuințelor* [Population and Housing Census], National Institute of Statistics, Mehedinți.

*** (2006), *Programul Operațional Sectorial. Dezvoltarea resurselor umane 2007 – 2013* [Sectoral Operational Programme. Human Resources Development 2007-2013], Ministerul Muncii, Solidarității Sociale şi Familiei, Bucureşti.