

SOCIO-ECONOMIC CHARACTERISTICS AND RESOURCE OF AGRICULTURE OF THE REGION

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Abstract

The subject of the research is the analysis of the socio-economic indicators and the state of agriculture in the region which is located in the south-western part of Serbia. The main characteristics of the region are: large number of young-age population, great migrations from rural to city areas and exceptional natural conditions for the development of cattle breeding. In short, the subject of the case study is the analysis of the basic socio-economic indicators (receiving of the full, selective, and comparable data), with special emphasis on the importance of agriculture and processing capacities for rural development in this part of Serbia. What needs to be pointed out is the importance of revitalization of agriculture and rural areas, given the fact that that it is economically the underdeveloped area. The observed region is economically one of the most underdeveloped regions in Serbia. For decades this region is seen as "traditionally" undeveloped area. The basic characteristics of this group are the decades-long underdevelopment, as well as the appearance of a new transitional poverty. The region is faced with accumulated economic (no industrial capacity, the collapse of large systems, undeveloped entrepreneurship, slow privatization process), structural (high rate of unemployment), social and demographic problems of the region. Socio-economic features and agricultural resources represent a significant potential for the development of agriculture and industry in the region and beyond. The aim of the study was to realize the internal strengths and weaknesses, as well as the external opportunities and threats for the agricultural development of this region and also to include critical analysis of the most important aspects of the system of existing institutions as well as performing of its business. Conducted analysis can be used for making of major strategic decisions in order to improve agricultural production in the region.

Keywords

socio-economic features, region, development, agriculture, cattle breeding, livestock.

Introduction

The rise of unemployment and poverty is evident in the south-western part of Serbia. The structure of the population engaged in primary livestock production is dominated by socially marginalized class of people who live in poor and difficult conditions, where even the most basic health and education services are lacking. Livestock production is their only strategy for survival. For this reason, when designing policies and other institutional interventions aimed at reducing poverty, it is necessary to develop a special plan for those whose survival is based on this agricultural branch as compared to those who wish to contribute to their standard of living with their activities (adjusted Arnold et al., 2001). In respect to the manufacturers who dispose of economies of scale, modern equipment and infrastructure, the region has exceptional natural resources, reduced costs of livestock production as well as young working age population, which altogether make the competitive advantage on the market. Certainly, the greatest resource of the region is large proportion of young, working population, providing that education is permanently invested in and that educational structure is harmonized with labour markets of the region.

Sustainability of the agriculture and economy of the region is entirely possible provided that certain measures of activity are implemented. Primarily, this refers to the making of adequate human resources in local governments - the Department for Agriculture, as well as in the agriculture itself, which will be able to successfully implement flexible mechanisms in the economy and agriculture. The optimal number of experts working in the institutions will be able to choose the best approach for selection and usage of methods for funding so as to achieve the greatest benefit for the economy, and not to diminish the opportunity for sustainable development at the same time.

Work Methodology

Theoretical analysis defined the meaning of concepts, theoretical framework of this study and analysis of relevant literature. Descriptive method of the existing socio-demographic characteristics and agricultural resources will create the basis for understanding and explanation of the condition and perspective of this region. All calculated parameters of the studied region were compared to the parameters of the Republic of Serbia in which the region is located. In accordance with problems that were treated in the study and the goals that were set, the authors presented mathematical and statistical methods as well. Also, by using the patterns from reference statistical literature, the analysis was performed by using the index numbers, which determined the dynamics of movement of population and economic resources of the region studied, which allowed the making of time series, as well as further statistical analysis and interpretation of such results. At the end, the SWOT analysis of agriculture in the region was conducted, which basically represented the analytical method based on which the factors of greatest impact on the business activities in this sector of the economy were defined. The study used the data from secondary sources, primarily from published documents of the SORS¹, Serbian National programs, programs and reports of relevant ministries, as well as historical data of domestic and foreign authors in certain publications. Primary data in most cases implied field work and data collection by personal interviewing.

Results and the Discussion

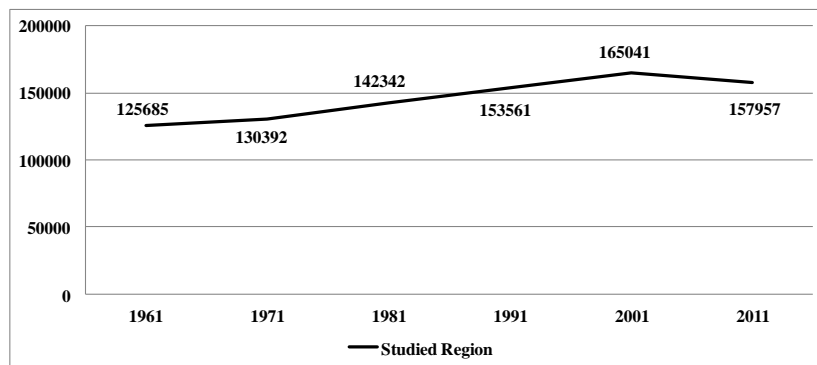
Regional demographic analysis is inseparable from the analysis of economic and other factors that are determining the level of regional development and reducing regional disparities. Out of the socio-economic point of view, reducing the number of residents is a major problem, especially if combined with changes in the age structure of the population and the aging of the population, since it produces negative effects on the labour market and the sustainability of the social security and health care system. The investigated region includes the municipalities of Sjenica and Tutin and the city of Novi Pazar. The region covers the area of 2.542 km², covering 2.9% of the National territory and it is located in the south-western part of Serbia. It is bordered by Montenegro on the west and Kosovo on the southeast. According to the administrative organization, this region belongs to the Zlatibor and Raška district. According to the latest data from 2011 census, the region's population is 157.957, or 2,2% out of the total population in the country². Total number of villages in the region is 293. Average population density of the region is 43,04 inhabitants/ km², and the average household size is 4,13.

¹Statistical Office of the Republic of Serbia

²According to data from SORS, Census 2011, the population in Serbia is 7186 862 (157957 : 7186862) x 100 = 2.2%

Decline in the birth rate in Serbia, the rapidly aging population from the base of the age pyramid, and increasing life expectancy of middle-aged and old population, intensified the aging of the top of the age pyramid, which contributed to the fact that population in Serbia formed regressive type of the age pyramid. Index of population change in Serbia for 2011/1981 is 77, whereas the studied region had index of 111 for the same period.

Figure 1 show that in longer period of time, from 1961 to 2001, the population number of the entire region has risen, but in the period of 2001-2011 the decline in population was recorded by 7084. In addition to declining birth rates, leaving of the working age population to the countries with more attractive economic environment is one of the reasons of the present negative trend in population.



Source: SORS, Municipalities in RS 1961-2011

Fig. 1. Population trends in the studied region from 1961 to 2011

Similar trend occurs with the number of households. The aging index for the census data in the year 2011 for Novi Pazar was 41,46%, for Sjenica 67,03% and the lowest index value of aging of 35,02% was recorded in Tutin. The average index of aging for this region is 47,83%. The aging index is an important indicator, whose value indicates the demographic aging process of the population. The average age of the population in the studied region, according to the 2011 census was 34,2, slightly higher than the 2001 census (33,5), but the average age of the population in the region is much lower compared to the National average of 42,2. Index of the functional population, or total dependency rate for the total region, was 51,2 (the Republic index is 48,7). The dependency of the old population is low, which is logical, given the fact that this population is young, and its score was 14,3 (the Republican average is 25,35). A large number of young people under 19 years old represent one third of the population and potentially they make the most important resource for the development of the region providing the active investments in the development and the dynamic adjustment of local education to systems of business plans of local self-governments. But, on the other hand, considering that it represents a very demanding group, this population is also a large burden for the family budget, public funds from the field of education, health and social care. The richness of this region is the young population, a higher proportion of working population and a smaller proportion of the old population compared to the national average, but on the other hand, the unfavourable educational structure of the population of the region represents the biggest risk for the economy of the region, as well as non-compliance with the requirements of the economy and the labour market, the inadequate level and structure of expertise, knowledge and skills of the working population. Changes in the overall economic environment, the needs of the economy and

the development flows of new technologies demand adequately educated and trained individuals and the nation as a whole. This is a demand faced by every country and society, whether it is a transitional economy or not. In this context, investment in education and human capital assumes the character of the financial investments. The quality of the workforce is one of the limiting factors of the economic development of this region, as investors avoid places where they do not have available high-quality and skilled workforce. Serbia does not have the official definition of rural areas, considering the fact that there is still no compliance with the NUTS regionalization. The criteria applied by the Statistical Office of the Republic of Serbia do not include standard indicators of rurality that are encountered in the international practice (population density, population number, the share of the agricultural population, etc.), but the parts of the country that are residuals of urban ones are considered as rural areas. Namely, the division to the city/urban and other areas is essentially based on municipal decisions by which the status of the city (urban) will be awarded to the settlement with the developed town-planning scheme. Such approach in defining of rural areas makes the statistical analysis and interpretation of indicators of rural areas harder. Out of the above mentioned reasons, it is unreliable to make comparisons of urban and rural population, but it is certain that we can determine the relationship between the urban and the rest of the population as hereinafter interpreted. Uneven urbanization and "atomization" of rural areas, which is characteristic of the global society as well, is present in this region is present. Concentration in urban areas recorded a significant growth in recent census. The ratio of urban and rural population, according to the 2011 census in the entire region is 57,40 : 42,30%. Emptying of the territory highly correlates with the increase in size of the uncultivated agricultural land, which is just another inglorious confirmation that the depopulation is associated with economic decline by causal connection. The ratio of the working age population in the city and in rural areas for the entire region is 50,4 : 49,6% in favour of the city.

Emptying the territory represents the biggest security risk. It is certain that in the future Serbia would not be able to keep the areas in which it remains without the population, especially in border areas. Results of the 2011 census confirm that villages and small towns lost the most residents, so if you take into account the fact that along the borders of Serbia there are only villages, it can be argued with great certainty that over the threshold of security risks the territories in the border areas are emptied. Based on the research of the studied region, one of the problems faced by this region, which caused negative economic trends (especially in rural areas), is the process of permanent migrations. Concentration of the rural population in suburban and rural areas surrounding the urban centres has contributed to the economic stagnation and the extinction of a large number of villages. Product of modern and general technical and technological modernization of (world) society results in the fact that extremely negative demographic trends occur in the rural areas in last decades. Neglecting of rural regions, poor infrastructure, economic and technological backwardness and traditionally present poverty resulted in the fact that many villages are isolated and extinct as a consequence of that. A particular problem is that in most cases the young and educated people are less likely to be retained in rural areas without an attractive economic environment and jobs appropriate to their skills and preferences. This way, rural areas are left without a labour force, but also without the significant human resources necessary for economic development and investment attraction. Modern migrations of younger population towards the city, led to redistribution of birth rate and transferring of centres of reproduction from village to city. Village ceases to be the bearer of bio reproduction or "demographic incubator" (Jandrić M., Rajić Z., 2012) and city that accepts young rural population is not ready to accept that role. The

result of that is decreasing bio reproduction of total population. The negative tendencies in the natural movement are badly reflected on the composition of the population of the villages in this region as well, so that the share of the old groups is increasing, which is certainly unfavourable base for the increase of the natural growth. Identified causes of migrations in this region are: unfavourable living conditions, lack of local roads, unsafe placement of goods, the education of children, poor water supply etc. According to the official data Novi Pazar records continuous population growth, which pulls many social difficulties and inconsistencies in the city at the same time, such as: lack of housing, creation of "illegal settlements", decrease of municipal standards, rising unemployment, health problems, increase of crime etc. (Jandrić M., Rajić Z., 2012). According to the results of this study, rural population states that the problems related to municipal infrastructure are priority for them and they are ranked higher than economic problems.

The condition of transport infrastructure in the studied region in the second decade of the XXI century is entirely unsatisfactory. The percentage share of modern roadway in the 2011 census in Serbia was 62,82%, or out of the total roadway of 43 258 km, modern roadway makes 27 175 km. The studied area has 21,86% of the modern roadway. The data indicate that there are minimum conditions for the performance of modern transport and increasing occurrence of limitation and reduced functionality of the existing communications. Undeveloped road infrastructure is certainly one of the biggest problems in the region. Many villages of Pešter plateau, especially the villages located in the edge of Ozren and Giljeva mountains have completely isolated position in relation to the surrounding centres. Connection of isolated villages would mitigate the migration processes and increase the functionality of communication, thus contributing to the development of agriculture in this region. In the coming period, the construction of Corridor 11 is planned, with one part that should be going through the municipality of Tutin and Sjenica. The planned highway will be very important for the whole Pešter plateau but at this point it is far more necessary to complete a unique network of local roads. Otherwise this corridor for villages of Pešter plateau will lose its importance. Connection of villages into quality and unique local road network would be of great importance for slowing down the intense negative demographic processes that affected this part of the region.

In the recent period there were no large (foreign or domestic) investments and the level of investment of the studied local self-government is far below the average of RS. Local government structures, already burdened with the current economic crisis, so far only verbally supported the development of agriculture and rural development, but with no incentives. In the past, local self-government authorities have given a priority to the industry, not recognizing the opportunity in agriculture, which reflected badly on agricultural capacities and resources. This observation is confirmed by the fact that number of highly qualified staff that work on administrative (according to the municipality on business and public administration in Novi Pazar four persons are performing administrative functions in the field of agriculture, forestry and environmental protection), and inspection responsibilities is very small and undereducated for independent creation of development projects of modern agriculture. PSSS is sufficiently covered by the professional staff while the NEA registered personnel from agriculture, forestry and environmental protection.

Agricultural Extension Service is insufficiently covered by the professional staff (6 employed highly qualified staff cover a number of settlements. Source Agriculture Extension Service Novi Pazar), whereas the NES (National Employment Service) has registered personnel from agriculture, forestry and environmental protection.

The unemployment rate is quite high, higher by 63% compared to the government, which is 22,4. High percentage of unemployment is significantly caused by the closing of large public/state-owned enterprises that were carriers of the development of these local self-governments. Proximity of borders with Montenegro, Kosovo and Bosnia and Herzegovina has great impact on the economy of the region. Agricultural production in the region is mixed and extensive. Land holding (5.48 ha) is significantly higher than the average of Serbia (3.5 ha), however, the structure itself has little arable land as pastures and meadows are prevailing. Often the structures of the land of individual farm holdings consist of forests as well. In the past, re-parcelling was not conducted, so that the land holding of individual farm holdings is cut-up into a number of smaller parcels that are more or less distant to each other. The land structure is dominated by natural grasslands and meadows with 33.6% of agricultural land and pastures with a share of 52.5% of the total agricultural land.

For Pešter plateau climatic conditions are limiting factor regarding the production of corn, so that the corn is cultivated on smaller areas, and it is not dominant agricultural crop as in most parts of Serbia. Crop yields per unit of the area are quite low due too the fact that the land is of poor quality class. A comprehensive analysis of the soil has never been conducted in the region, so that experience and traditions are the replacement for a scientific approach. There is no market surplus in crop production, and production is intended for feeding of livestock on the farm. Fruit and vegetable production are based on small parcels of land, mainly in areas where there are climatic and soil conditions for fruit and vegetable production (lower regions, river valleys, quality soil, etc.). A small number of farms has market surplus, which is sold on the local market.

In the region, livestock production primarily assumes cattle and sheep production, as the number of heads of other animals is symbolic. Livestock fund in the region is decreasing over the past thirty years (According to the data from Veterinary stations from Tutin and Novi Pazar and Centre for Rural Development Sjenica, 2012), a trend that characterises the entire of Serbia. Trend of reduction in the number of cattle and sheep in Serbia is already present for many years (Jelić S. et al. 2012). Most households have owns one to three cows, and this category of households is the largest in all three municipalities. When it comes to racial composition, the Simmental is dominant, whereas the Holstein breed is also slightly involved (about 10%).

Shortage of milk is a major problem of the dairy industry, both in Serbia and in neighbouring countries. Statistical data on the production and placement of milk are usually incomplete, so it is difficult to have an insight into the real production and marketing of these products. The lack of accurate data of produced and purchased quantities of milk and dairy products, is explained by their placement through the channels of the gray economy. Since there are no accurate records of milk and dairy products, social and economic importance of these products is often underestimated. The data available from the companies involved in the purchase, processing and placement of milk, significantly contribute for the dynamics in the commercialization of these products to be explained in certain extent. Illegal production and unprofessional handling of products after purchase aims to be limited, by certification and standardization, in order to improve the control and organization in all phases of the commercialization of these products.

National average of dairy production per cow is 2.458,5 liters, which is less than the world's average by 18%, and compared to the European average is less by 50%. The whole decade since the beginning of 2000, up to the 2010 is characterized by a reduction in the number of cows and heifers, and stagnation in the production of cow's milk (Arsic S. et al., 2010). There are about 30 large and 200 small and medium-sized dairies engaged in the processing of milk. The value of milk production accounts for about 8% of the gross

agricultural production, and the share of the dairy industry in formation of domestic product of the food and beverage industry in Serbia is around 9%. The region has six active, registered dairies. Only two dairies have redemption over 1.000 t/year, whereas the purchase of all other dairies in the region is less than 1.000 t/year. On the average, only 20% of the total volume of produced milk is purchased from the farms, which is significantly lower than the average for Serbia where over 50% of the produced milk is purchased (Kljajic N. et al., 2009). The emphasized seasonal character of milk production and the absence of redemption places represent a significant limiting factor in the operation of dairies. There is a small number of milk cooling tanks on the field, mostly of small capacity. Transportation is carried out with own, or rented trucks. Compared to the highest number of dairies in Serbia, studied dairy companies have relatively short lines of supply (25-50 km), which have reduced transport costs. The lack of processing capacity is a major issue for the economic development of the region.

Due to the logical sequence of events, one question arises – what is missing? The answer should be looked for in other countries' experiences, successful agricultural producers, where the mainstay of the economy is this, very important branch. Without livestock production, it is difficult to imagine a developed agriculture and economy of a country. Modern concepts of rural development introduce Business Support Centres, which primarily need to provide upgrades for the products out of the primary production, such as geographical origin, quality control, sorting, calibration, storage, packaging, branding, promotion, placement, payment and so on. A disadvantage of this type of support has direct impact on the collapse of already weak economy of rural areas.

Throughout the SWOT analysis or internal-external matrix features of agriculture (livestock) of this region were consolidated into one general set of internal forces and placed in the ratio with external opportunities and threats. This way the condition were created for recognizing the strength with which agricultural regions participate in a dynamic environment and identify external factors that create an opportunity or a threat in further activities related to this industry sector. The most important internal strengths are reflected in the rich livestock, rich tradition in dairy production and dairy products, a large number of young working population, large pastures and meadows and areas untreated with chemical synthetic materials, which altogether provide a solid base for the development of the organic production. Weaknesses are manifested through a lack of bulky livestock feed, poor modernization and introduction of technical and technological solutions, seasonal character of livestock production (destruction of livestock in winter), poor infrastructure, lack of processing facilities, lack of funding, a high level of under education in rural population, lack of purchase stations for livestock products. If the weaknesses should be hierarchically aligned, priority would certainly go to a poor infrastructure. Chances for revitalization and sustainable development of livestock production in this region can be seen in the international development programs, national programs of rural development, bigger support of local self-governments, increasing of processing capacities, and support for existing, developed capital markets for micro enterprises that dominate in this economy sector, cross-border cooperation that refers to the neighboring countries, which currently have a deficit and higher prices of milk and dairy products (Arsić S. et al. 2010), and at the very end, horizontal and vertical integration of small and medium enterprises.

At this point the connection and associations of entrepreneurs is quite difficult to realize, because it takes time to restore the shaken confidence in the unions and cooperatives, or any other type of associations. The region has several "clusters", but the activities and the establishment of their institutions are still at low level. Clear threats to the further development of animal husbandry in this region are harsh climatic conditions, inadequate

solving of infrastructure issues, migration from villages to the city and the coarsening of a dairy sector in the surrounding regions, governed by economies of scale and leads to the fact that many micro enterprises are giving up on work operations. SWOT analysis related to the agriculture of the studied region, lead to one of the four main findings: Weaknesses are overpowering the strengths, chances are overpowering the threats, and such internal-external matrix supports the development strategy of the sector.

Conclusion

Based on the survey results by which a complete, selective and comparable data were obtained, it can be concluded that the economy of the region is full of structural problems and that it needs a strong and honest political and financial support of all relevant institutions in order to survive and prosper in the future. Strategies for the long-term plans of agriculture are only partially covered by the plans of the sustainable development, which confirms the fact that agricultural production is totally neglected and unrecognized by local self-governments as an opportunity for development of the economy of the. All three local self-governments of the region and the state itself should give a priority to the livestock production as the only branch of agriculture for which all of the conditions for sustainable development exist. It is necessary to develop the capital market by foreign financial institutions, adapted to the financing of small businesses, entrepreneurs and micro-enterprises, with particular attention to companies with businesses in underdeveloped part of Serbia. In the conditions of crisis, commercial banks did not have enough understanding for crediting, so that SME mostly relied on internal sources of financing, which is hard to maintain, especially for micro businesses. In order to improve the living conditions and to slow down the process of migration, a common network of local roads that will connect all villages with the nearest centers should be built.

In the future, when distributing the budget funds, agriculture and rural development should be given a priority. The funds from the budget should be forwarded to the development programs such as:

- Establishment of new processing capacities,
- Improving of racial composition,
- Establishing of purchase stations,
- Supporting of clusters, associations and cooperatives,
- Promotion of activities related to livestock production,
- Establishing of silo plants,
- Development of organic production,
- Development of activities complementary with livestock, etc.

Establishing of larger processing facilities would be justified because hiring of young labor force and reducing of the unemployment rate would mitigate the negative effects and burdens on labor markets and social security systems and health care, as well as the presence of the gray economy.

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