

Review

Strengthening the Capacity of the Wine Sector in the Service of Sustainable Rural Development of the Republic of Serbia

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Abstract: The aim of this paper is to present the state of wine production and business of wineries in the Republic of Serbia, in order to create a set of measures to strengthen the capacity of the wine sector in the function of rural development. The results of the research show that viticulture production in the Republic of Serbia is poorly developed. These are modest areas and yields, with the absence of the use of modern knowledge and technologies in production. The wine industry has seen progress in the last two decades, but the situation is still unsatisfactory. In order to strengthen the capacity of the wine sector, it is necessary to focus on modernizing processing technology, branding, differentiation, new investments, education, association of winemakers, simplification of administrative procedures, applying for EU funds, increasing incentives, promotion and creating a stimulating business climate. Without stronger state support, no significant growth in the competitiveness of the wine industry can be expected. Since the number of wineries in the Republic of Serbia has recently increased, it is to be expected that the production of grapes and wine, as well as exports, will increase, and thus achieve significantly greater economic-ecological-social effects.

Keywords: viticultural production, wineries, wine, competitiveness, rural development.

1. Introduction

The production of grapes and wine in the Republic of Serbia has a very long tradition, established since the time of Emperor Probus, who ruled these areas in Roman times [1]. Viticulture and winemaking are activities that have the potential to encourage sustainable rural development and thus contribute to the realization of positive economic and environmental effects in the new model of economic development, which relies on the principles of sustainability.

Thanks to the agro-climatic conditions and geographical position, there are great opportunities for the production of grapes and wine in the Republic of Serbia, especially in its central and southern part [2]. The potentials are largely untapped, and the condition of viticulture and winemaking is not satisfactory. Recently, there has been a trend of raising vineyards on modern scientific and professional principles, as well as processing facilities in the form of small family wineries [3,4].

In the Republic of Serbia today, there are between 20 and 25 thousand hectares under vineyards and approximately 35 million liters of wine are produced, but considering the trend of raising small wineries, wines with geographical origin, i.e. quality and high quality wines, are taking an increasing share.

Strengthening the capacity of the wine-growing sector, ie the competitiveness of Serbian wines, has only in recent years become a subject of interest, both for agricultural structures and participants in the value chain, as well as for researchers.

Increasing competition on the international, but also on the domestic market, sets the task of creating a marketing strategy to strengthen the competitive position [5], which is an important prerequisite for strengthening wine capacity. Placement on the domestic market may be satisfactory, but higher prices and higher profits can be achieved on the international market [6]. Increasing the competitiveness of domestic wines can be realized by increasing quality [7]. There are production areas with suitable natural conditions and high production potential. Increasing the quality of wine is possible if varieties for high-quality wines are introduced into viticultural production, but also by accepting a practice that implies respect for the principles of sustainable development. Integral and organic production can improve quality, and the recommendation for strengthening the capacity of the wine sector will relate, among other things, to the transition to a system of sustainable wine production, as well as opportunities to further strengthen competitiveness in order to dynamize wine production and production of high quality wines. export flows.

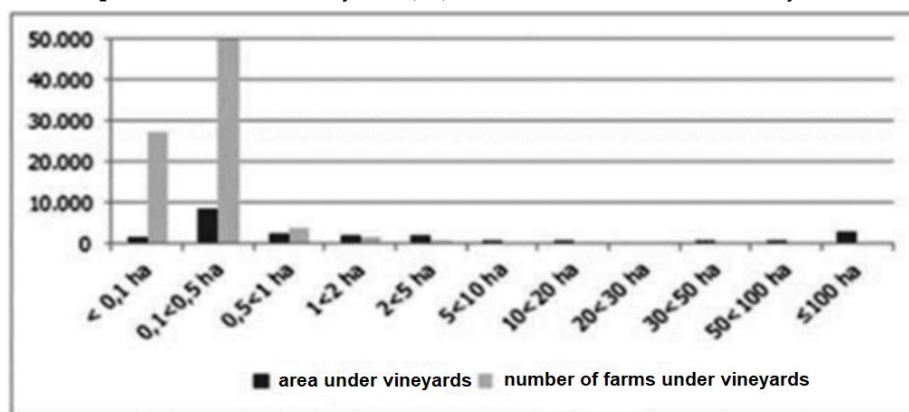
2. Aim of Paper

The aim of this paper is to present the state of viticultural production and business of wineries in the Republic of Serbia, in order to create a set of measures based on the obtained results to strengthen the capacity of the wine sector in the function of rural development. The main research question is: is the state of the wine sector of the Republic of Serbia satisfactory, i.e. are there opportunities to strengthen the capacity for grape and wine production?

3. Viticulture Production in Serbia - The Basis for the Development of the Wine Sector

A large number of agricultural farms, which have relatively small areas, are engaged in viticultural production in the Republic of Serbia. More than 1/3 (34%) are farms with extremely small vineyards (<0.1 ha). The largest group of grape producers (62%) are farms that have vineyards of small areas, from 0.1 to 0.5 ha. On the other hand, only six wineries had viticultural production on 100 and more hectares [8]. Based on the Census of Agriculture, 80,341 farms own vineyards, which is almost 13% of the total listed farms (621,445) [8]. Viticulture expert prof. Ivanišević points out that viticultural production can be profitable on an area of 2 to 5 ha, which implies that most of the viticultural production is not profitable [9].

Graph 1. Areas under vineyards (ha) and number of farms with vineyards [8]



At the end of the last century in the Republic of Serbia, viticultural production took place on about 40,000 hectares. Areas under vineyards [8] amount to 22,150 ha, of which about 6,500 hectares are for predominantly commercial purposes. In professional circles, there is information that there are about 30,000 ha of vineyards in the Republic of Serbia. According to the data of the Institute of Agricultural Economics in Belgrade in the period 2012-2018. year, the area under vineyards has increased by 35% and in 2018 it is around 34,000 ha, which provides raw materials to produce 38 million liters of wine [10]. However, only about 2,500 ha are planted with indigenous varieties, which is about 12% of total grape production. Reduced profitability, due to increased production costs and strong competition, are the main factors for the decline of viticultural production, i.e. a drastic reduction of production areas, at the end of the last and the beginning of the new century. Viticulture and wine production also declined due to social events in the 1990s [11]. The importance of local varieties has been recognized among winegrowers, and together with the growing trend of wine tourism, it is to be expected that autochthonous wine grape varieties will take a larger share. According to the data of the Viticulture Register, currently (as of March 1, 2019), 3,997 producers are engaged in grape production on 19,265 vineyard plots [12].

It is estimated that about 83% of the area under vineyards is in Central Serbia. We have vineyards with a tradition, but without modern vineyards, which is an additional problem to the existing one - lack of manpower and professional skills [13].

The Republic of Serbia has an excellent climate for the development of modern viticultural production, which enables the production of grapes with an ideal ratio of acids and sugars [14]. Grape and wine production can be improved within wine regions, starting from the north, through vineyards in Central Serbia, all the way to the far south. Finally, some wine regions have already gained their recognition thanks to the high quality of grapes and wine [9].

The yield of grapes has varied in the last ten years depending on the climatic conditions, but it averaged 167,363.1 tons. The average yield per vine is from 0.7 to 1.54 kilograms [15].

Although many modern vineyards have been raised in recent times, the quality of grapes, as raw materials for wine production, has not significantly improved. The lower level of grape quality is the result of the lack of application of modern knowledge, fragmentation of production, low representation of high-quality varieties, lower investments, and financing problems, as well as inadequate protection against pathogens [16].

To develop viticultural production, the state helps the procurement of planting material, backing, preparation for raising vineyards and land analysis in the amount of 40% of the investment value, and for marginal areas up to 55%. For the first time in 2017, the Ministry of Agriculture co-financed the procurement of vineyard tractors, irrigation systems and anti-hail nets with 50% of their value [17].

Today, wine production in the Republic of Serbia is mainly based on family wineries of small and medium capacity. A significant number of large wine systems did not retain their production orientation during the privatization process, so they deteriorated. This consequently produced a situation of abandonment of viticultural production by subcontractors, and thus there was a large reduction in the area under vineyards [18].

The main problem in the development of viticulture is that there is no special strategy [11], which should be a preoccupation of agricultural structures. Producers criticize the subjects of agrarian policy for the development lag of the viticulture sector. The biggest problem of small producers is the fact that only those producers who accept state planting varieties have access to subsidies [10]. Other reasons are also present, such as deagrarianization of rural areas, the problem of financing production and investments, non-transparent process of privatization of former social enterprises, etc. [14].

Further development of viticultural production in the Republic of Serbia is largely hampered by fragmented holdings, and the problem is to provide adequate land for raising new vineyards [19].

4. Wine Industry of Serbia

The area of the Republic of Serbia is suitable for the production of all types of wine, both white, rosé and red wines. The hilly and mountainous areas in Central and Southern Serbia stand out in the first place, but also some areas in AP Vojvodina, such as the region of Fruška Gora, Vršачki breg, Deliblatska peščara and others.

Wine production in the Republic of Serbia is done professionally, but there are also those who respect tradition [20]. Based on data from the Wine Register, in 2019, 353 wineries are engaged in wine production in the Republic of Serbia [21]. The total capacity for grape processing in market-oriented wineries (310 wineries) is 195,073,521 kg of grapes, ie they have a maximum wine production capacity of 71,520,850 liters. Wineries with very small capacities for wine production predominate [22]. Namely, more than half, ie 136 wineries have limited capacities for wine production, below 20,000 liters. A significant number of wineries (93) have slightly higher capacities (20,000 to 40,000 l) for wine production, which is still insufficient to maintain and improve the competitiveness of wineries. Only 48 wineries have the capacity to produce more than 100,000 liters, of which 13 have the capacity to produce more than 1,000,000 liters per year [12]. Most small wine producers direct the entire activity from production to marketing, including promotion, to the immediate family. The latest research shows that a total of 381 wineries operate in the Republic of Serbia [23]. Wine production capacities far exceed the produced quantities of grapes, which average 167,363,100 kg (2009-2018). Wine production in 2017 participated in the total value of agricultural production with 7.74% [15].

Although the Republic of Serbia has regulated the legislation, ie harmonized with the EU legislation on the issue of categorization of wine products and geographical indications, there is still no satisfactory share of production of high quality wines with geographical origin. The reason for this is inadequate conditions and capacities, ie the lack of modern equipment at some wineries, in addition to technical and administrative obstacles [21].

Table 1. Relationship between wines without geographical origin and wines with geographical origin [21].

Quality wine categories	2016	2017	2018
Wines without geographical origin	92	85	85
Protected geographical indication	3	7	8
Protected designation of origin	5	8	7

In the Republic of Serbia, only 7% of all produced wines have a protected designation of origin, while 8% have a protected geographical indication.

In 2017, organized by the Chamber of Commerce of Serbia, for the first time, the "Purple Plaque" was awarded to the producers of the best wines in the system of geographical origin, which produced 2.6 million bottles last year [24]. In this way, we want to encourage a change in the structure of production in favor of the production of high quality grapes, as the basic determinants in the production of high quality wines.

In the last two decades, the wine sector of Serbia has achieved a noticeable growth trend in demand, thanks to changes in consumer habits, who increasingly consume quality wines, but also promotion through specialized fairs of ethno food and beverages and traditional events [25]. For example, the Spring Wine Festival in Sremski Karlovci, as well as other events of such a character, gather domestic and foreign wine lovers and promote wine culture and wine tourism.

Domestic consumers largely prefer imported wines and the level of demand for domestic wines is not stimulating enough to increase production. As it is a matter of more dynamic introduction of domestic wines on the market only in the last two decades, it is clear that we cannot talk about products that have a firm position in the minds of consumers [26].

The average annual production of wine in the Republic of Serbia is about 37 million liters. Just over 50% of the total wine production is from raw materials from the domestic market. In Central Serbia, the production of red and rosé wines predominates, and in Vojvodina, the production of white wines is dominant. Consumption of wine per capita in the Republic of Serbia is from 10 to 12

liters, which is quite modest compared to Western European countries, where the average is about 40 liters per capita per year [18]. The total annual consumption of wine in the Republic of Serbia ranges from 1 to 1.1 million hectoliters [10]. White wines make up about 64% of production, and red about 36% [14].

Considering the revival of the wine industry, the Ministry of Agriculture of the Republic of Serbia launched in 2008 an initiative to reform Serbian laws on winemaking and reclassify wine regions. Three wine-growing regions have been defined: Vojvodina, Central Serbia, Kosovo and Metohija, 22 regions and 77 vineyards to produce wine with geographical origin. The Viticulture Register, the Wine Register, the category of wine registration with geographical origin, stamps related to the origin and quality of wine from a certain locality were introduced [9], which is the main condition for reviving and further developing viticulture and wine industry.

With the popularization of wine, wine producers are increasingly involved in the production of grapes, and do other administrative work, regardless of qualification and age structure. It is interesting that wineries, in an effort to increase the level of competitiveness, pay more and more attention to improving the staff structure through the engagement of experts / consultants, to whom they entrust some key activities [27].

Viticulture and wine production in the Republic of Serbia are slowly reviving with great efforts and funds, which are invested by the state and the producers themselves. In the coming period, the Ministry of Agriculture, Water Management and Forestry will try to amend the Law on Wine, to enable natural persons, i.e. registered agricultural farms to engage in wine production [28].

4. SWOT Analysis of the Viticulture and Wine Sector

Qualitative (SWOT) analysis is used to explore the possibilities of strengthening the capacity of the wine industry in the Republic of Serbia. The SWOT matrix includes the strengths and weaknesses of the domestic viticulture and wine industry. Also, opportunities for the development of this sector have been identified, as well as threats from the environment for the implementation of the plan for strengthening wine capacities.

Table 2. SWOT analysis of the viticulture and wine sector [12,29].

STRENGTHS	WEAKNESSES
Favorable agroecological conditions for viticultural production, Existence of a long tradition in viticulture and winemaking, Growing interest in the production of grapes and wine, Significant domestic wine market and increasing consumption, Existence of domestic quality autochthonous varieties, especially those suitable for integral and organic production.	Low competitiveness of domestic wine, Poor organization of producers, Dominance of small farms and small wineries, Lack of certified seedlings, Low level of technical and technological equipment in wineries, Weak exports of grapes and wine, Poor promotion of domestic wines and lack of geographical indications, Requiring administrative procedures for winery registration and protection of designations of origin.
OPPORTUNITIES	THREATS
Popularization of wine among consumers with the development of various forms of tourism, More active marketing strategy (use of social networks in promotion), Association of winegrowers and winemakers, Strengthening the certification and selection system, Improving the implementation of EU legislation, Simplification of administrative procedures, Incentive agricultural policy, Integral and organic production, EU funds (IPARD).	Strong competition in export markets and growth in imports of cheap wines, Complicated administrative procedure for starting a business, Poor monitoring regarding the application of illicit oenological practices and means, Prolongation of the adoption of new legislation, which would simplify the conditions for registration of wine producers, Unresolved funding problem, Large manufacturers are generally more competitive.

4. Suggestions and Recommendations for Strengthening the Wine Sector in Serbia

Increasing the competitiveness of wineries, and continuously reducing operating costs through the modernization of technology and equipment are the primary strategies for strengthening the capacity of the wine sector [30].

The fact that the Republic of Serbia has favorable geographical and other conditions for growing vines and that in 2019 it gave more than 30 million USD for the import of wine. [15], is an incentive to increase the production of quality grapes and wine, in the function of sustainable development of rural areas.

Recently, the Ministry of Agriculture announced that wine production will be the focus of the development of strategic competencies of Serbian agriculture. It was also pointed out that additional financial resources will be allocated from the state budget (in the next ten years, the state intends to invest EUR 300 million in the improvement of winemaking), in order to ensure the interest of domestic and foreign investors in the region [31].

It is necessary to further increase incentives for new vineyards, especially to produce wine with protected geographical origin, compensation for laboratory costs, subsidies for equipment and machinery, etc. Babović et al. [32] point out that incentives should be linked to respect for the principle of regionalization, in a way that wine production is directed to those areas where it gives the best results [32].

IPARD has the option of subsidizing grape production up to 60% of investment costs or 1.5 million euros. Also, wine production can be subsidized with 50% of investment costs or with 2 million euros. It is important to note that both funds can be used, which leads to 3.5 million euros in subsidies [12]. We believe that this will reshape the Serbian wine industry. One of the primary objectives of the IPARD II program is to strengthen the wine and wine sector to increase the supply of grapes and wine.

Promotion, as one of the elements of the marketing mix, can contribute to the development of viticulture and winemaking. In this context, market trends should be monitored and adjusted to. Wine routes are a tourist product, whose primary goal is the promotion and sale of wine, but also other products of a wine region [22,33]. It consists of natural beauties, specifics of the environment through which the road leads, cultural and historical sights, traditions, and peculiarities of the wine-growing area [34]. On one wine route there are several wineries, which in addition to quality wines offer other facilities to tourists. Encouraging and promoting wine tourism also strengthens the capacity of the wine sector and overall local development.

Branding through a geographical indication and production of wines from well-known high-quality varieties could improve the market position, i.e. competitiveness of Serbian wines, which would have a reciprocal effect on the dynamization of viticultural production and increase the use of existing processing capacities [35]. By branding, i.e. using the designation of geographical origin, it is possible to raise the competitiveness of domestic wines to a higher level [36]. Quality, which is confirmed by geographical, ecological or some other label, is completely in trend, so consumers are increasingly buying such products [37]. Branding of wines and wineries through a geographical indication is understood as the most important marketing instrument in the function of dynamizing grape production and wine placement, i.e. raising competitiveness [22]. Dogan and Gokovali [38] point out that the geographical indication helps small producers to differentiate their indigenous product and thus achieve a competitive advantage [38].

One of the measures to support competitiveness is the business connection of producers, ie the creation of cooperatives, producer associations and clusters. By joining specialized viticultural and wine cooperatives, and later by creating complex production and processing systems, winemakers could improve the technology of wine production, but also marketing, which is a necessary precondition for success on the international market. As a rule, individual appearance on the market of individual small wineries cannot result in high efficiency. The association should provide stimulation for the development of wine capacities, influence the exchange of ideas and experiences, cooperation with state institutions, i.e. it should ensure the improvement of competitiveness. Affirmation of cooperatives could encourage viticultural production, and thus improve the

competitiveness of wineries. By uniting producers, it is possible to ensure quality, quantity, and continuity in supply, i.e. to provide the required level of competitiveness. Association is especially important for standardization, branding, promotion, and distribution, which play a large role in the value chain [39]. Djordjevic and Sredojevic [40] point out that the lack of association creates difficulties in financing, weakens bargaining power and makes it harder to reach consumers [40]. The Fruška Gora cluster of winegrowers and winemakers "Alma Mons" from Sremski Karlovci gathers winegrowers, winemakers, and wine tourism entities in the area of AP Vojvodina. The most important activities of the cluster are organized sending of wine samples to international exhibitions and fairs, study visits to wineries and clusters in the area, organizing info days and lectures with topics of interest to winemakers and the like [30].

By harmonizing the interests of all stakeholders, significant improvements can be expected in terms of strengthening the production and trade flows of grapes and wine. At the same time, we believe that there are a number of operational solutions, which can be relatively quickly incorporated into agricultural policy and legal regulations, and which in the short term can contribute to increasing the competitiveness of the wine industry.

Recommendations for raising the competitiveness of domestic wines, which is the basic determinant of strengthening the production and processing capacities of grapes and wine, refer to:

- association of small producers to achieve quantities and continuity in delivery,
- standardization of production to standardize quality, standards of hygienic correctness.
- rational exploitation of natural resources with the introduction of integrated and organic production.
- product differentiation, i.e. increase of technology in the selling price,
- management, marketing, education, and knowledge transfer,
- grape assortment should be harmonized with demand.
- investing in new capacities, technologies and equipment for wine processing and storage, as well as expanding existing capacities.
- solve the problem of financing (subsidized loans, increase incentives).
- provide a stimulating investment climate,
- formation of a distribution center with products with a geographical indication,
- branding and applying for a geographical indication at the international level,
- stimulating wine culture and wine tourism,
- enlargement of household holdings.

5. Conclusions

The sector of viticulture and wine production in the Republic of Serbia is facing significant problems, both in production and in terms of product placement.

The main reasons for the relative lag of this sector, which determine the low competitiveness and productivity of grape producers and processors, are the small areas under vineyards, ie the lack of economies of scale, modern equipment, and technology. All this generates high cost prices and discourages a more serious volume of investments. However, optimism is influenced by the fact that lately there has been a recovery in the production and processing of grapes, the opening of new wineries, as well as the growth of exports.

Strengthening the capacity of the wine sector, ie raising the competitiveness of wine producers includes the following:

- agricultural policy measures, which will encourage the erection of new modern plantations with high-quality planting material.
- directing viticultural production towards sustainable systems, such as integrated and organic production.
- equipping wineries with technologies and equipment, which ensure economically efficient production and storage of wine.
- branding of domestic wines through the introduction of geographical indications and on that basis better market positioning to improve competitiveness,

- build an adequate platform for communication between winemakers, for better cooperation, which can help organize profitable production and facilitate market entry.

The chance for domestic producers of grapes and wine is the production of autochthonous and introduced newly created high-quality varieties. We also point out the need for wider education of those interested in viticulture and winemaking.

For the development of viticulture and wine production, it is necessary to harmonize the interest of the public and private sector, invest in further research and development, support small producers through a system of subsidies, producer associations, production financing, and direct production towards sustainable systems that promote biodiversity and reduced pesticide use.

Quality standardization has been recognized as an important factor in increasing the competitiveness of the wine sector, and thus improving the production economy and living standards of producers.

The growth of demand on the international market for quality wines should be taken advantage of. With adequate marketing and strengthening the competitiveness of domestic wineries, significant benefits can be expected in the future. In this context, it is necessary to invest in quality, differentiation of supply, branding, and lower production costs.

Without stronger state support, no significant growth in the competitiveness of the wine industry can be expected. Greater support in terms of co-financing projects, the introduction of innovations is expected in the future from the agricultural budget, but also through EU technical assistance programs in the accession process (IPARD). The existing experiences of the countries from the immediate environment indicate the multiple benefits of such support, and the basis for the realization of this cooperation are detailed programs and offers of joint projects, which must be harmonized with the priorities of the Ministry.

Since the number of wineries in the Republic of Serbia has recently increased, it is to be expected that the production of grapes and wine, as well as exports, will increase, and in that way achieve significantly greater economic-ecological-social effects.

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