ASSESSMENT OF THE VITICULTURE STATE, CHALLENGES AND ITS DEVELOPMENT POTENTIAL IN THE ARMAVIR REGION USING SAMPLE SURVEYS

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Abstract

Viticulture (aka grapes production) is one of the most prominent branches of agriculture in the Armavir region of RA. In the past 30 years of independence, this sector experienced ups and downs and has a development trend that cannot be described as linear and growing. This research is devoted to assessing the current state of viticulture in the Armavir region of RA. The main purpose of the research is to reveal the existing obstacles that hinder further sector development. In the scope of that purpose, the possibilities and preconditions of further development of viticulture in the Armavir region were evaluated.

The scientific novelty lies in the fact that for the first time, the viticulture of the Armavir region was comprehensively studied, and for that purpose, the method of sample surveys was used.

By implementing the method of sample surveys author tried to reveal the main characteristics and peculiarities of grape-producing practices, the average selling prices of grapes, the ways and directions of realization of grapes, and the costs per unit of grapes were calculated. Sample surveys provided first-hand information from grape growers, and the analyses of that information were summarized in the following conclusions:

- The overwhelming majority of grape producers operate in vineyards which have a size of less than 1.0 ha,
- The majority of grape producers use their family labour during grape cultivation processes which helps to reduce costs per unit of grapes,
- Mainly technical varieties of grapes are cultivated in the Armavir region,
- The main obstacle for grape producers in the region is the low prices of grapes, which prevents them from expanding their vineyards and production volumes,
- The sales and procurement of grapes have serious issues which must be resolved to ensure the further development of viticulture in the region.

The observations made in the scope of this article can be helpful for the Government of RA during sectoral policy-making and for the investors and private firms for their decision-making processes.

Keywords and phrases: viticulture, grape producers, vineyards, sample surveys, Armavir region.

ԽԱՂՈՂԱԳՈՐԾՈՒԹՅԱՆ ՎԻՃԱԿԻ, ԶԱՐԳԱՑՄԱՆ ՄԱՐՏԱՀՐԱՎԵՐՆԵՐԻ ԵՎ ՆԵՐՈՒԺԻ ԳՆԱՀԱՏՈՒՄԸ ԱՐՄԱՎԻՐԻ ՄԱՐԶՈՒՄ ԸՆՏՐԱՆՔԱՅԻՆ ՀԱՐՑՈՒՄՆԵՐԻ ՄԵԹՈԴԻ ԿԻՐԱՌՄԱՄԲ

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Համառոտագիր

Խաղողագործությունը ՀՀ Արմավիրի մարզի գյուղատնտեսության կարևորագույն ճյուղերից մեկն է: Անկախության նախկին 30 տարիների ընթացքում այս ճյուղը ունեցել է վերելքներ և անկումներ, իսկ հիմա բնութագրվում է զարգացման այնպիսի տրենդով, որը աճող չի կարելի համարել: Այս հոդվածը ուղղված է ՀՀ Արմավիրի մարզում խաղողագործության ներկայիս վիճակի գնահատմանը: Հետազոտության հիմնական նպատակն է՝ բացահայտել այն առկա խոչընդոտները, որոնք խաթարում են խաղողագործության հետագա զարգացումը: Այդ նպատակի իրականացման շրջանակներում գնահատվել են մարզում խաղողագործության զարգացման հնարավորությունները և նախապայմանները:

Հետազոտության գիտական նորույթն այն է, որ առաջին անգամ համակողմանիորեն ուսումնասիրվել է Արմավիրի մարզի խաղողագործությունը, և այդ նպատակով կիրառվել է ընտրանքային հարցումների մեթոդը:

Ընտրանքային հարցումների մեթոդի գործածմամբ հեղինակը փորձել է վեր հանել խաղողագործության պրակտիկայի հիմնական առանձնահատկությունները և բնորոշ գծերը, խաղողի իրացման միջին գները, իրացման ձևերն ու ուղղությունները, հաշվարկվել է խաղողի մեկ կիլոգրամի ինքնարժեքը:

Ընտրանքային հարցումները ապահովել են խաղողագործներից առաջնային ինֆորմացիայի ստացումը և այդ ինֆորմացիայի վերլուծությունը ամփոփվել է հետևյալ եզրակացություններում՝

- Խաղողագործների ճնշող մեծամասնությունը գործում է խաղողի այգիներում, որոնց չափը չի գերազանցում 1 հեկտարը:
- Խաղողագործների մեծ մասը խաղողի մշակության աշխատանքներում օգտագործում է իրենց ընտանիքի աշխատուժը, ինչն օգնում է կրճատել խաղողի ինքնարժեքը:

- Արմավիրի մարզում հիմնականում մշակվում են խաղողի տեխնիկական սորտեր,
- Մարզի խաղողագործների համար հիմնական խոչընդոտ է հանդիսանում խաղողի ցածր գինը, ինչը հետ է պահում նրանց արտադրության ծավալները և այգետարածքները ընդարձակելուց:
- Խաղողի իրացման ու մթերման հետ կապված՝ լուրջ խնդիրներ կան: Դրանք պիտի կարգավորվեն՝ մարզում խաղողագործության հետագա զարգացումը ապահովելու համար:

Հոդվածի շրջանակներում արված եզրահանգումները կարող են օգտակար լինել ՀՀ կառավարության համար ոլորտային քաղաքականություն մշակելիս, ինչպես նաև՝ ներդրողների և մասնավոր ընկերությունների համար որոշումների կայացման գործընթացներում:

Բանալի բառեր և բառակապակցություններ. խաղողագործություն, խաղողագործներ, խաղողի այգիներ, ընտրանքային հարցումներ, Արմավիրի մարզ:

ОЦЕНКА СОСТОЯНИЯ ВИНОГРАДАРСТВА, ПРЕПЯТСТВИЙ И ПОТЕНЦИАЛА ЕГО РАЗВИТИЯ В АРМАВИРСКОЙ ОБЛАСТИ МЕТОДОМ ВЫБОРОЧНЫХ ОБСЛЕДОВАНИЙ

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Аннотация

Виноградарство является одной из самых главных отраслей сельского хозяйства в Армавирской области РА. За последние 30 лет независимости этот сектор переживал взлеты и падения и в настоящее время имеет тенденцию развития, которую нельзя охарактеризовать как линейную и растущую. Данное исследование посвящено оценке современного состояния виноградарства в Армавирской области РА. Основной целью исследования является выявление существующих препятствий, препятствующих дальнейшему развитию отрасли. В рамках этой цели были оценены возможности и предпосылки дальнейшего развития виноградарства в Армавирской области.

Научная новизна данного исследования заключается в том, что впервые всесторонне изучено виноградарство Армавирской области и для этого использован метод выборочных обследований.

Применяя метод выборочных обследований, автор попытался выявить основные характеристики и особенности практики выращивания винограда, рассчитать средние цены реализации винограда, способы и направления реализации винограда, затраты на единицу винограда. Выборочные обследования предоставили информацию из первых рук от виноградарей, и анализ этой информации был обобщен в следующих выводах:

- Подавляющее большинство производителей винограда работают на виноградниках площадью менее 1,0 га.
- Большинство производителей винограда используют семейный труд в процессе выращивания винограда, что помогает снизить затраты на стоимость винограда.
- В Армавирской области выращивают в основном технические сорта винограда.
- Основным препятствием для производителей винограда в регионе являются низкие цены на виноград, что не позволяет им расширять свои виноградники и объемы производства.
- Серьезные проблемы с продажей и закупкой винограда . Эти вопросы необходимо решить для обеспечения дальнейшего развития виноградарства в регионе.

Наблюдения, сделанные в рамках данной статьи, могут быть полезны правительству РА при разработке отраслевой политики, а также инвесторам и частным фирмам при принятии ими решений.

Ключевые слова и словосочетания: виноградарство, производители винограда, виноградники, выборочные обследования, Армавирская область.

Introduction

One of the viticultural regions of the RA is the zone of Ararat Valley, a part of which includes the Armavir region. In this viticulture zone, temperatures above 10 degrees are 3957˚-4263˚, which contributes to the accumulation of a large amount of sugar in the grapes [1, p. 32].

The viticulture in the Ararat Valley is specialized in:

- Cultivation of table grape varieties (fresh use, drying, export, long-term storage). The cultivated table varieties are Anushik, Muscat, Yerevanian, Sasun, Spitak Arakseni, Ayvazyan Muscateni, Yellow and Pink Yerevans, Black Raisins, Erebuni, Anahit, Arevashat, Ararat, Ayvazyan Rose.
- Cultivation of technical grape varieties intended for wine, brandy, cognac, and liqueur production [1, p. 37].

Armavir region stands out for its developed agriculture and industry sectors. The region's geographical position and climatic conditions are favourable for the development of horticulture and animal husbandry. The industry of the region specializes in the areas of electricity, food production, and mining. In 2021, the weights of the main sectors of the region's economy in the total of relevant sectors of the RA were [2]:

- industry 5.0%,
- agriculture 22.6%,
- construction 7.3%,
- retail trade 4.5%,
- services 1.5%.

Theoretical and methodological bases

The viticulture complex is one of the RA economy's most essential and strategic sectors. The viticulture complex unites grape growers, grape procurement companies, and producers of alcoholic beverages. Alcoholic beverages obtained from grape processing are products with comparative advantages in international trade [6] and were in second place among the products with the highest customs value exported from RA (in 2021) [7]. In addition to providing wine and brandy industries with raw materials, viticulture also provides high employment in rural areas. The other main features of viticulture are:

- The costs of establishing vineyards start to be repaid in the 3-4th year. With the proper cultivation, a high income per hectare can be obtained. In addition, compared to other agricultural products, the yield of grapes is higher per hectare; the grapes do not have a pronounced period of fruiting, which results in a balanced harvest under similar conditions in different years.
- The table varieties of grapes are highly storable and are mainly exported. Due to their good taste and high-quality features, Armenian grapes are in great demand in foreign markets [8].

The wine and brandy industries are rapidly growing in Armenia. The impact of the viticulture output indicator – Gross grape harvest, on the development of the wine and brandy industries is the following.

- Gross grape harvest significantly affects the production volumes of brandy 6.7 years later; there is a positive linear correlation between brandy production volumes and gross grape harvest.
- In the same way, gross grape harvest affects the production volumes of wine after 5.6 years later and the production volumes of champagne after 5.8 years. The correlation between these two indicators and the gross grape harvest is positive and linear [4].

Grape production is considered a highly profitable economic activity as the yield per hectare is relatively high [3]. However, studies show that in Armenia, selling prices of grapes are the predominant factor affecting sectors' development and grape growers' incomes [7]. Considering the analyses of existing literature and the economic potential for viticulture in the Armavir region, it is appropriate to assess the state of viticulture in the Armavir region using sample surveys.

Methods

In order to gain a deeper understanding of the state of viticulture in the Armavir region and obtain information from the grape growers about the existing problems, a sample survey method was used. A questionnaire consisting of 19 questions was prepared that included questions referring to the technical and economic indicators of grape growing farms and also questions that refer to the economic behaviour of grape growers and their attitude towards viticulture. To determine the sample size needed for surveys, we must first determine the size of the leading group. In this case, the main group is the farms engaged in grape production in the Armavir region. RA Statistical Committee does not publish this index every year; that is why we obtained the data from the database of Agricultural Census 2014 (Table 1).

Table 1

The number of grapes-producing farms in the Armavir region

	Total number of grapes producing farms	of which	
		in the field	in the lands near homes
RA	66591	26927	46321
Armavir	19461	5781	15973

More than 19,000 households are engaged in grape production in the Armavir region, but the overwhelming part of them, about 2/3, do it on the lands near their houses (the area of which is no more than 0.08-0.1 hectares). These households mainly grow grapes for their own needs and do not play a decisive role in the overall grape supply. Therefore, these households were not included in the study. After the number of these households is excluded, the size of the main population of surveys will be

5781 farms. Taking this indicator as a basis, the sample size was determined as follows: With a 95% confidence level and a 5% margin of error, the sample size should be at least 361 for a population of 5,781[1]. Therefore, 365 was taken as the sample size and 365 surveys were conducted within the research framework. The surveys were carried out using a random sampling method. Grape growers from various rural settlements of the former Armavir, Etchmiadzin and Baghramyan regions were included to ensure the highest possible level of reliability of the surveys.

Results and discussions

The details about respondent grape growers are presented in Table 2. The overwhelming majority of grape producers were male - 88.5%. Most of the grape producers - 63.2% were in the middle age group, with the average age being 55 years. The number of people over the age of 63 was more than twice that of those over 35. In other words, the number of young people engaged in grape production is small compared to the elderly. This is a negative phenomenon and once again confirms that agriculture in the RA is not attractive for young people, and they seek to live in cities, leaving rural areas.

Table 2

The basic data about the grape growers participating in the survey

		Number, person	Weight, %
Sex	Man	328	**88.5**
	Woman	42	**11.5**
Age	< 35	38	**10.3**
	35-63	234	**63.2**
	> 63	98	**26.5**
Education	Secondary	174	**47.7**
	College	65	**17.8**
	Higher	131	**34.5**

Here, along with the problems of the viticulture sector, we are also facing a serious demographic problem. The median age of the grape was 56, and the mode (which indicates the most common age among the surveyed grape producers) was 57. Median and mode indicators and the mean give a more comprehensive idea of the average age of grape growers. In this case, the median and mode indicate that the average age of grape growers is even closer to 60. As for the education of the grape growers, it was revealed that almost half of them (47.7%) have only secondary education, the number of those with higher education is significant (34.5%), and grape growers with college education made up 17.8%. The level of education, age and gender of grape growers are intra-economic factors that may significantly impact the farm's efficiency.

The age composition of the vineyards in the surveyed farms is presented in Figure 1. The vineyards were classified into three age groups:

- Vineyards planted before the independence of Armenia (33 years and older),
- Vineyards planted during the years of independence (32-16 years old),
- Vineyards planted in the last 15 years (15-year-olds or younger).

The classification was based on the idea that Armenian viticulture has had several stages of development, the first of which was the new political-economic conditions formed after the collapse of the USSR and the Declaration of Independence. Later, in the late 2000s, there was a steady growth in the wine and brandy industries, which led to some revival in viticulture and a new wave of planting vineyards.

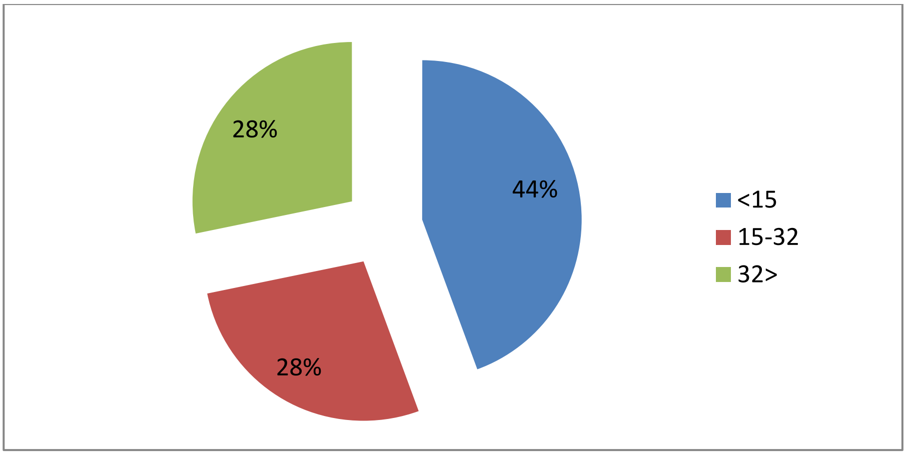

Figure 1. The age composition of the vineyards

Vineyards planted during the USSR period and vineyards older than 15 years have the same weight: 28%. The rest - 44% of the vineyards were under 15 years old. Starting from 2004, the vineyard areas grew steadily until 2010 (Figure 2). This means that the attractiveness of viticulture was raised in the early 2000s, and that contributed to the planting of new vineyards. The average yield of grapes is similar between age groups, meaning that a high average yield is secured regardless of vineyard age if cultivation is done correctly.

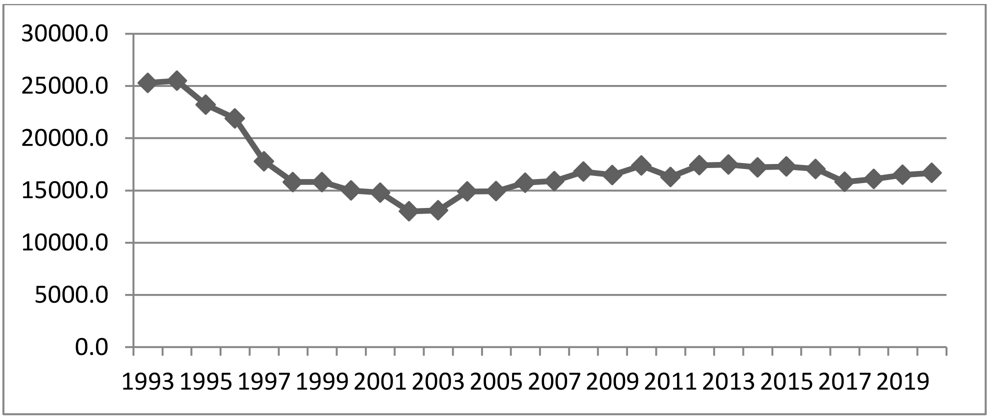

Figure 2. The dynamics of vineyard areas in RA 1993-2020.

Now let us summarize the data on vineyards' sizes (Table 3). The size of 42.2% of grape farms was only 0.1-0.5 hectares. The fact vividly reflects the existing problem in the RA agrarian sector related to the small size of farms. Farms with a size of 0.5-1.0 hectares made up 34.8%, and farms with a size of 1.0-2.0 ha made up 12.9%. Only 27 farms with a size of 2.1-5.0 hectares participated in the survey. There were seven farms with a size of 5.0-10.0 hectares and only three farms with a size larger than 10 hectares. The size of more than 70% of farms does not exceed 1.0 hectares. We calculated the Mode, Median and Average to determine the average vineyard size of surveyed farms. It turned out that the average of 365 surveyed vineyards was 1.4 ha, whereas the mode was 0.5 ha and the median was 0.7 ha. This is because there were surveyed vineyards with sizes of 24ha, 30ha and 70ha, and these big numbers automatically deviated from the average value.

Table 3

Classification of vineyards participating in the survey by size

Areas, ha	Number, unit	Weight, %
0.1-0.5	154	42.2
0.5-1.0	127	34.8
1.0-2.0	47	12.9
2.01-5.0	27	7.4
5.0-10.	7	1.9
10>	3	0.8
	365	100.0

The economic performance indicators of grape farms are presented in Table 4. The highest average yield was recorded in farms cultivating table grape varieties: 26.3 t/ha. The next group are the farms cultivating grape varieties used for brandy/cognac production. The average yield was 21.9 t/ha, and the lowest level of the average yield (18.4t/ha) was recorded in the farms cultivating varieties used for wine production. In all three cases, the average yield index exceeds the national average, as well as the regional average presented in official publications. On the one hand, this is conditioned by the fact that the climatic and weather conditions of the last years were quite favourable and contributed to high harvests. On the other hand, such a value of the average yield indicates that grape cultivation (fertilization, nutrition, irrigation, pests and diseases control) in the Armavir region is carried out properly, and because of this, a high yield is ensured.

Table 4

The economic performance indicators of grape farms

	Average yield, ton/ha	Costs per unit, AMD/kg	Selling prices, AMD/kg
Brandy varieties	21.9	68	123
Wine varieties	18.4	87	161
Table varieties	26.3	67	193

Regarding the costs of grape production, it was revealed that the costs per unit of grapes for brandy varieties are 68 AMD/kg, for wine varieties is 87 AMD/kg, and for table varieties is 67 AMD/kg (Table 4). This relatively low level of costs is determined by the fact that most of the labour is carried out by the grape growers' family members, which reduces labour costs. This situation is present in most farms, particularly in farms up to 1.0 ha in size and those that produce table grape varieties. Our calculations proved that when hired labour is replaced by the labour of grape growers' own families, the cost of grapes is reduced by 50-60%. If we give a monetary expression to the costs of own labour and include them in the costs per unit, the real value of it will be 138-172 AMD.

Regarding sales: brandy varieties were mainly procured by Yerevan Brandy Company, MAP Wine and Brandy Factory, Proshyan Brandy Factory, Ijevan Wine-Brandy Factory, Yerevan Ararat Brandy-Wine-Vodka Factory. Armenia Wine, Voskevaz Winery, Proshyan Brandy Factory and several other smaller processors procured wine varieties. Table grapes were mainly realized in local markets. The surveyed grape growers noted that it was complicated to sell table grapes. If, in the past years, the grapes were exported to Russia in large volumes and with relatively high prices, now the exports to Russia have significantly decreased, leaving the sale of table grapes to local markets. This situation is partly a consequence of the Russian-Ukrainian war, paralleled by the unfavourable fluctuations of the RUB exchange rate. The latter creates unfavourable conditions for Armenian exporters, resulting in a sharp decrease in export volumes. This situation once again speaks of the dire necessity of diversification of grape export destinations. The average sales and procurement prices of grapes were the following.

- The price of brandy varieties: is 123 AMD,
- The price of wine varieties: is 161 AMD,
- The price of table varieties: is 193 AMD.

In other words, if we compare the price of grapes with the costs per unit, then cost coverage is not ensured. The situation is mitigated by the fact that grape production costs are reduced at the expense of the grape growers' own labour, and an imitation is created that grape production is profitable. In reality, the amount of that profit is directly proportional to the amount of investment of own labour by grape growers, and it turns out that the grape growers are just working on their own farms and are paid for their labour.

Only 11.5% of grape growers have a long-term contract with grape processing companies, and these are mainly those farms whose size exceeds 1 hectare. Most of the long-term contracts are signed with Yerevan Brandy Company.

46.0% of the group of grape growers stated that they had problems receiving the money after procuring grapes. Processing companies transfer the money partially or entirely with a delay of 2-3 months. For example, some of the grape growers noted that as of February 2023, they have yet to receive the whole money of grapes purchased back in September 2022. Therefore, the grape growers provide little or no profit (courtesy of low prices), and it is coupled with delays in payments, which worsens the situation even more. In many cases (34% of respondents), grape production is the primary source of income for the grape growers' households; therefore, the given household is simply deprived of the opportunity to ensure a normal livelihood.

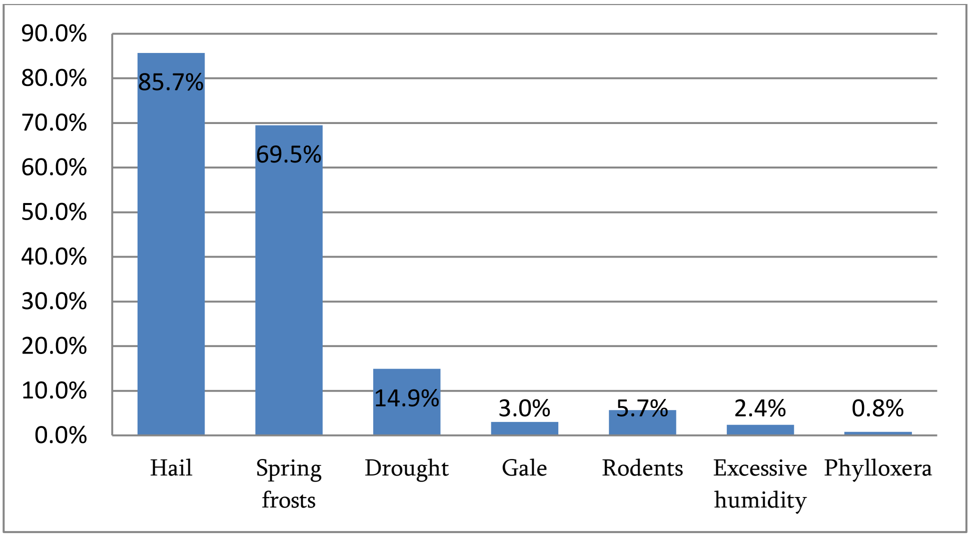

Figure 3. The occurrence of primary natural factors damaging grape production

Among the natural factors, disasters, the grape growers of the Armavir region singled out hail, spring frosts, drought, gale/strong winds, rodents, excessive humidity and the presence of Phylloxera (Figure 3). The most common natural disasters are hail and early spring frosts. Notably, only 0.8% of grape growers had a record of Phylloxera in their vineyards. This can indicate that the spread and harmfulness of Phylloxera in the Armavir region is small, and it requires a separate agronomic study to find out the reasons for Phylloxera's weak manifestation in this region.

According to the results of the survey, grape producers identified the following as primary issues hindering grape production:

- 84.7% of the grape growers stated that the main obstacle is the low selling prices,
- 57.0% stated that the overall difficulties of realization and procurement are a hindering factor (the lack of demand, violations by buyers-processors, payment delays, etc.),
- 22.5% stated that the lack of long-term contracts is a hindering factor,
- 7.9% stated that grape production is expensive, labour-intensive,
- 5.8% indicated the problem of scarcity and, in some cases, unavailability of irrigation water as an obstacle,
- 4.7% mentioned the lack of labour resources as an obstacle,
- 0.8% considered the lack of state support, or, more specifically, its insufficiency, to be a problem.

In order to reveal the opportunities of viticulture development and to evaluate the attitude of the grape growers regarding the future of their activities, the following question was asked during the survey: "In what condition will you increase your vineyards?". The received answers are presented below:

- 85.5% of grape producers answered that they would increase their vineyards only in case of a high selling price. Some even pointed out the minimum threshold of the high price: 180-200 AMD. Many grape growers indicated that if the current situation continues (the prices remain the same and sales problems are not resolved), then they will stop producing grapes,
- 56.2% of grape producers indicated that they would increase their vineyards if there were no problems with sales and procurement of grapes, and 58.4% emphasized the existence of long-term contracts. The long-term contracts with processing companies will be a guarantee for grape producers that there will be no sales problems, and it will create some degree of sustainability for grape production,
- 4.4% of grape producers indicated that they would expand their vineyards if the problem of irrigation water was solved. Armavir region is an artificially irrigated agricultural region where water is provided through irrigation networks. Unfortunately, there are still places in the region where accessibility of water is a problem. It is a consequence of not only the shortage of water in some years but also the inefficient work of state-owned bodies [5].

- 1.1% of grape producers indicated that they would increase their vineyards if the availability and volumes of state assistance and support programs were increased,
- 5% of grape growers stated that they would not expand their vineyards.

It turns out that the price factor largely determines the further development of viticulture in the Armavir region. The vast majority of grape producers mentioned the low prices as a hindering factor and are ready to expand their vineyards only in the condition of higher prices. Sales difficulties and the lack of long-term contracts are serious problems for grape growers, but their importance is less significant than the price factor. It is worth noting that the low price was mentioned as a problem by grape growers who mainly cultivate technical varieties of grapes. Those grape growers engaged in the cultivation of table varieties mostly complained about the difficulty of realizing grapes and sometimes even the impossibility of it. The less significance of the price factor for table grape producers is logical because, as the survey results showed, the prices of table varieties varied between 220-300 drams, which is twice the size of the selling price of technical varieties. Grape growers that cultivate wine varieties of grapes also complain about the lack of long-term contracts, even though Article 49 of the law of RA about alcoholic beverages based on grape raw materials stipulates that for the production of wines with geographical indication, it is mandatory that the wine producers should have contracts with grape growers to purchase grapes, and that contracts must be signed before the start of the cultivation season. The existence of a long-term contract is not specified here. However, compliance with this article by buyers-processors is a guarantee for grape growers. It implies that in terms of wine varieties, there will be no problems in the realization of grapes.

In the context of alleviating the problems of the agrarian sector in Armenia, there is the approach of the unification of lands by creating more prominent land owners or the spread and implementation of the culture of cooperation amongst small land owners. Taking into account this notion and in order to find out the attitude of grape growers towards cooperation and their willingness to join cooperatives and carry out activities in such a way, the following question was asked during the survey: "Have you heard about cooperatives and are you willing to join to cooperation, or you prefer to operate in a current way?" As a result, all survey participants stated that they were familiar with it. However, in response to membership, 90.4% of grape growers answered that they are against it and prefer to operate in the current way. Only 9.6% of the respondents are ready to join any cooperative. Thus, in the short term, applying the idea of cooperation will not provide significant results, and it cannot be considered as one of the ways of solving the problems existing in viticulture.

Conclusion

The results of the conducted studies and analyses led us to the following conclusions:

- The overwhelming majority of grape producers operate in vineyards, which have a size of less than 1.0 ha. The median of vineyard sizes was 0.7 ha,

- Most grape producers use their family labour during grape cultivation processes, which helps reduce costs per unit of grapes. Our calculations revealed that costs per unit of grapes were reduced by 50-60% when family labour replaced hired labour,
- Mainly technical varieties of grapes are cultivated in the Armavir region,
- The main obstacle for grape producers in the region is the low prices of grapes, which deprives them of expanding their vineyards and production volumes. Average selling prices of grapes in some cases do not even cover the costs of grape production,
- The realization and procurement of grapes have serious issues and must be improved to ensure the further development of viticulture in the region.

The observations made in the scope of this article can be helpful for the Government of the RA during sectoral policy-making and for the investors and private firms for their decision-making processes.

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