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COMPARATIVE ANALYSIS OF ECONOMIC INDICATORS OF THE TEA SECTOR OF AZERBAIJAN AND GEORGIA

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ABSTRACT

The purpose of the study is to assess production and consumption based on the analysis of economic indicators of the tea sector in Azerbaijan and Georgia. Research methodology: Comparative and economic statistical analysis methods were used in the research. Significance of the study: It is believed that other tea-producing countries will benefit from the experience of Azerbaijan and Georgia in tea production. The results of the study: It was determined that according to the average price of green tea leaves, Azerbaijani producers receive an income \$ 0.07 per kg from Sri Lanka, \$ 0.34 from Georgia, \$ 0.54 from India and \$ 0.55 from Vietnam. Originality and scientific novelty of the research: Despite the high level of production in these countries during the former Soviet era, the value of green tea leaves has increased relatively in the current period.

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Introduction. Starting from the 19th century, tea production in Azerbaijan and Georgia began and formed its own traditions. In the 1980s, tea production in these two countries peaked and provided a large amount of tea consumed in the former USSR. As a result, the former Soviet Union is the world's fourth largest tea producer after India, China and Sri Lanka. The structural changes that took place after these countries gained independence in the early 1990s led to a sharp decline in the tea sector.

In order to ensure the growing interest in tea production in Azerbaijan and Georgia in recent years, states have adopted state programs to support the development of a new mechanism of tea production and increase production in order to revive the once prosperous tea sector. Thus, the "State Program on the Development of Tea Growing in the Republic of Azerbaijan for 2018-2027" was approved by the Order No. 3660 of the President of the Republic of Azerbaijan dated February 12, 2018. It is planned to increase production to 8,500 tons, which is 8 times more than in 2018. [1] The implementation of the new Georgian River Project aims to subsidize the rehabilitation of up to 7,000 ha of abandoned tea plantations in previous years under the 2016 Tea Plantation Rehabilitation Program.

Despite the long process of tea production and processing, the sustainable development of the tea sectors in Azerbaijan and Georgia is one of the important conditions for modern times, both in the application of new technologies that reflect the high achievements of ETT and in the management of this technology. It is important to take into account changes in consumer preferences in regional and international markets, as well as potential environmental risks when growing quality products in tea production.

Analysis of the current state of tea production. The countries compared in the study have their own traditions and specifications of tea production. Part of the former Soviet Union, the two countries were major tea producers and peaked in the mid-1980s. Thus, they provided more than 95% of the share of tea produced in the USSR and 75% of the total tea supply. At that time, Georgia was the leader in the production of about 150,000 tons of tea from more than 65,000 hectares, while Azerbaijan produced about

35,000 tons from 13,000 hectares, with a yield of 0.43 ha / ton per hectare in Georgia and in Azerbaijan. 0.37 ha / ton. The analysis shows that in the comparable period, the productivity of tea in Georgia was 0.06 ha / ton more than in Azerbaijan. The relatively low rate in Azerbaijan may be due to the fact that the river does not produce high productivity in very hot climates.

The collapse of the USSR, a major tea producer, led to the loss of traditional markets for consumers of this product and the weakening of tea production in both countries (Figure 1).

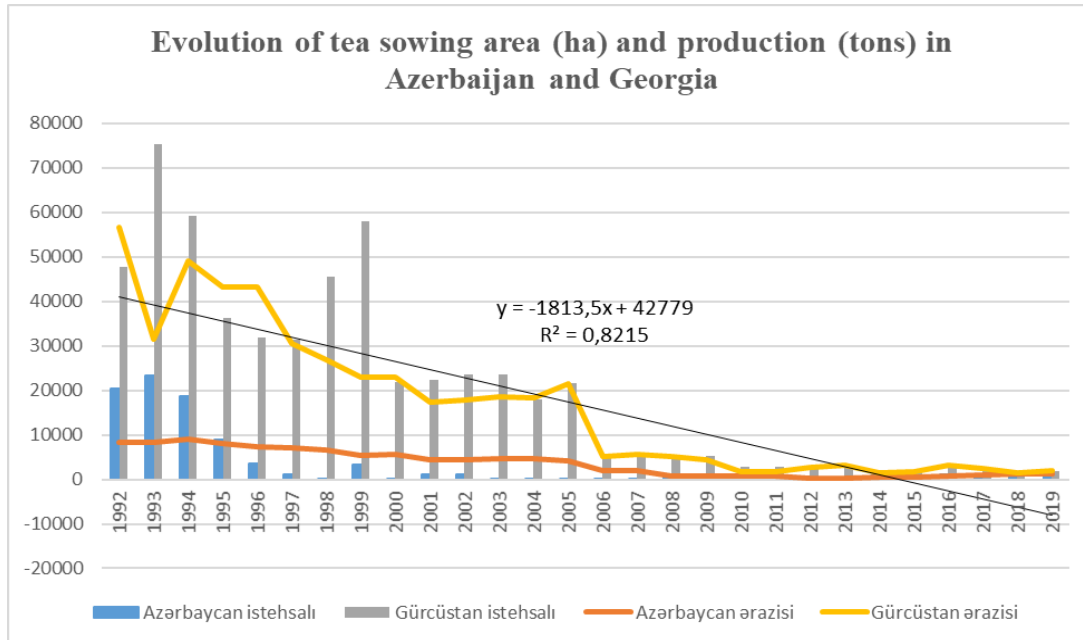


Fig. 1. Evolution of tea sowing area (ha) and production (tons) in Azerbaijan and Georgia

The negative sign of the approximation function in the diagram reflects the declining number of tea plantations in both countries. Approximation equation

$$y = -1813.5x + 42779$$

and the level of evaluation of that indicator

$$R^2 = \text{equal to } 0.8215.$$

Analysis of the data in the diagram shows that tea production in Azerbaijan did not change approximately in 1992-1995. Compared to 1992-1995, the production of tea in 1996-1999 decreased by 6-7 times, and in subsequent years, very little was produced. In Georgia, in 1992-1995, tea production was 3.5 times higher than in Azerbaijan, and in 1996-1999, there was a tendency to increase production, and in that period there was a significantly higher level of production than in Azerbaijan.

According to statistics, in 2019, about 1,900 hectares of tea plantations in Georgia produced 2,000 tons of green tea leaves, and in Azerbaijan, 900 tons of green tea leaves from 1,100 hectares of tea plantations were produced and consumed in local and international markets. The foreign markets of these countries were dominated by the markets of the former Soviet Union. For comparison, the volume of green tea collected in Georgia after processing in tea factories was 2.22 times higher than in Azerbaijan. Also, the tea plantation in Georgia during this period was 1.73 times more than in Azerbaijan. Thus, the productivity of tea plantations in Georgia was 1.28 times higher than in Azerbaijan. The high value of this indicator can be explained by the fact that the natural climate of Georgia is more favorable for tea than in Azerbaijan.

Mechanism of state support for the development of tea growing in Azerbaijan and Georgia. Recognizing the importance of the tea sector, Azerbaijan and Georgia have adopted development programs for the development of tea growing in order to provide special state support to stimulate the development of this sector. However, the specific support mechanisms for achieving this goal differ between these countries.

Commendable work on the implementation of current state support measures approved in 2018 and effective from January 1, 2020 in order to achieve the goals set in the "State Program for the Development of Tea in the Republic of Azerbaijan for 2018-2027" approved by the Presidential

Decree has been done. Thus, for the first seven years after the implementation of the relevant measures, a subsidy of AZN 700 per hectare and then AZN 240 per hectare was provided. A subsidy of AZN 240 is applied to sown areas established before 2019, regardless of the year of use of the sown area. [3] These government subsidies are aimed at stimulating investment in new tea plantations and replacing special subsidies for the production of various existing agricultural products. It should be noted that the state support provided to cooperatives with an area of more than 50 hectares, in addition to the above, is entitled to an additional subsidy payment of 10%.

The calculation based on state subsidies for tea expansion shows that the amount of subsidies provided in the amount of AZN 4,900 / ha in previous years after the adoption of the State Program is slightly less than 50% of the total investment required for the development of this sector. This indicates that the risks for small entrepreneurs to participate in tea production are still high, given that tea is a relatively low-income area compared to other crops.

The "Tea Plantation Rehabilitation Program" adopted in Georgia in 2016 and its implementation mechanism are different from the program adopted in Azerbaijan. The goal of this program is to stimulate the recovery of abandoned tea plantations by financing weeds, deep pruning, fertilization and other activities. According to the state rehabilitation program, up to 7,000 hectares of abandoned tea plantations will be rehabilitated in the coming years. The program is managed by the Agricultural Projects Management Agency (APMA) of the Ministry of Environmental Protection and Agriculture [4].

The maximum subsidy amount is limited to the estimated rehabilitation costs of 2,500 GEL (Georgian lari) per hectare. Depending on the ownership and legal status of the land, actual payments are made at 60% of the maximum amount paid to individuals who own the land, and up to 90% for cooperatives that produce on leased or state-owned land. Until 2020, this type of state-defined grants will be provided only to farms from 300 to 300 hectares. Our calculations show that the state's investment expenditures for this purpose can reach 8,000 GEL per hectare, ie the amount of subsidies provided by such a scenario covers 25-30% of the total joint expenditures of the state in this direction. Also, the investment costs required to obtain a tea product certificate produced in Georgia are often excluded from the program. The comparison shows that while in Georgia it is 2,500 GEL (AZN 1,350) for plantation rehabilitation, in Azerbaijan it is AZN 700, which is 1.93 times less than Georgia's subsidy. From this point of view, the high productivity of tea in Georgia compared to Azerbaijan can be justified both by the favorable climatic conditions for this plant and the high share of state support in the need for additional investment (costs for closing the edges of plantations). Thus, this program for the development of tea in Georgia is similar to the state support in Azerbaijan, as it reflects the difficulties faced by small farms.

Tea production and consumption practices in comparable countries.

The coastal regions of both countries have the most favorable agro-climatic conditions for tea production, where tea plantations are located. Especially in the summer months, most river plantations in Azerbaijan (except in rare cases) are irrigated (unlike in Georgia) due to the low rainfall on the Caspian Sea coast compared to the Black Sea. Another difference between the two countries is that most of the tea plantations in Georgia are located near livestock pastures. Therefore, fencing is required to protect crops from animals, although there is no need for this in Azerbaijan. It should be noted that for this purpose, the restoration of abandoned tea plantations in Georgia requires more investment than in Azerbaijan.

Along with the differences in tea production in these countries, there are similarities. Examples include plant stocks, seedling planting, harvesting, as well as post-harvest operations and production practices.

In both countries, tea bushes are grown in accordance with the harvesting methods established during the former Soviet Union. Samples for planting seedlings are planted at a distance of about 1.5-2.0 meters from each other and in a row. During the agro-technical service of the plant, producers in both countries claim that they produce tea without chemicals without the use of fertilizers and pesticides.

As a result of many years of experience in these countries, the practice of collecting green tea leaves with leaf pickers has, in fact, led to a deep perception of the deterioration of tea quality. Indeed, one of the most important conditions for the production of high-quality teas is the manual collection of only the highest quality tea leaves. Thus, during mechanical harvesting, fresh and soft leaves developed at the ends of the bikini are damaged and have a negative impact on its quality. Therefore, harvesting operations in these countries undermine the quality of the final product. It should be noted that most of the tea processing plants in Azerbaijan and Georgia cover low-quality tea processing, which is a large part of total production. Thus, it was determined that about two-thirds of tea

production in Georgia is low-grade tea (five-six leaves and one bud), and the rest is high and medium-grade tea (two-three leaves and buds). In fact, most of all large farms and factories collect tea bushes for the production of "brick" tea. In 2019, it was determined that about a third of the tea produced in Georgia is intended for the production of "brick" tea. For this purpose, tea bushes are pruned in late October as the last crop of the year. As a result, the total mass of collected tea leaves consists not only of leaves, but also of branches of tea bushes. Low quality tea produced in these countries is sold especially to the CIS export markets (for example, Mongolia, Kazakhstan, Russia, Ukraine, etc.).

There is an endemic problem with the concept of drying, storing and processing tea leaves based on good agronomic knowledge after harvest. The green leaves remain in storage for 24 hours, sometimes up to 36 hours, before entering the factory for processing. If this is not controlled, premature oxidation of tea leaves in the environment in which they are located, resulting in a significant deterioration in the quality of the final product.

Despite the fact that there are different options for the production of tea in agriculture, these countries regularly produce black tea. Thus, the significant processing power inherited from the former Soviet Union is largely obsolete, inefficient and underutilized. This has a negative impact on the cost of production and product quality.

Consumption patterns represent a key difference between Georgia and Azerbaijan, which may require two different approaches in terms of producers' greater dependence on the domestic market and import substitution in terms of improving market access and diversifying export markets for the development of their tea sectors.

Annual tea consumption per capita in Azerbaijan was 1.6 kg in 2008, and in 2018 this figure increased by 31.3% to 2.1 kg. This is a promising trend for the tea sector. Currently, Azerbaijan, along with the United Kingdom, Turkey and Morocco, is one of the leading countries in drinking tea, and the annual consumption per capita in these countries varies from 1.5 to 4 kg. It should be noted that although Georgia and Azerbaijan were the main tea suppliers in the former Soviet market, they have now become net tea importers. The difference between imports and exports is more pronounced in Azerbaijan. In 2019, about 14,000 tons of imported tea worth \$ 55 million will be consumed in large quantities. Most of the tea imported to our country comes from Sri Lanka, and a total of 1,500 tons of tea worth \$ 9.5 million was exported from other countries.

In 2019, Georgia imported 2,500 tons of products worth about \$ 10 million and exported 2,000 tons worth \$ 4.4 million, mainly from Sri Lanka and Iran, as well as Azerbaijan. Most of Georgia's exports are low-cost "brick" tea, which is also exported to Mongolia and Kazakhstan. Thus, the total unit value of tea is reduced due to the high share of "brick" tea in Georgia's tea exports compared to Azerbaijan. This is one of the main differences between the two countries.

For both producers, the main destinations for tea exports are the countries of the former Soviet Union. In particular, Azerbaijan's tea exports to these countries account for more than 95% of total tea exports. On the other hand, 96% of Azerbaijan's tea imports are from Sri Lanka (the most important import with 88%), Russia (re-export of packaged tea) and India. Almost 84% of tea exported from Azerbaijan is black tea packed in tea bags and packed in boxes of up to 3 kg. In contrast, about 89% of black tea imported to Azerbaijan is in bulk. These teas are mixed, packaged and labeled in Azerbaijan. It is then either sold domestically or re-exported. This creates uncertainty regarding the labeling and application of the rules of origin of Azerbaijani tea. It should be noted that in 2018, export prices were on average twice higher than import prices, i.e. exports were 6.86 US dollars / kg, imports were 3.84 US dollars / kg. This shows that the exported tea is mainly aimed at the high-end market. As a result, after the tea exported to Azerbaijan is packaged and the Azerbaijani brand is launched under the name "made in Azerbaijan", it is of some interest to consumers and, although not of high quality, is more acceptable than packaged tea from Sri Lanka or Kenya.

In contrast to the methods used in Azerbaijan, green tea in Georgia is mainly in the form of lower-cost "brick" tea, which accounts for about two-thirds of total exports and is exported to Central Asian countries (Mongolia, Kazakhstan and Turkmenistan). Black tea is exported to Turkey (bulk) and Azerbaijan (in packages of less than 3 kg). Tea packaged in Georgia is exported under the "made in Georgia" brand. On the other hand, tea imports in Georgia have averaged 2,500 tons per year since 2017, half of which is black tea. Tea is mainly imported from Turkey and the imported teas are of low quality. Tea is also imported from Sri Lanka and India. Unlike tea imported from Turkey, tea imported from these countries is of high quality.

In general, limited domestic consumption and foreign trade patterns show that attention to export markets can be a cornerstone in the context of the revival of the Georgian tea sector, provided that efficiency and product quality are achieved at the required level. Preserving the origin of the tea and tracking the local tea produced from field to cup can be a different way to empower the "made in Georgia" brand both in Georgia and abroad.

Profitability in tea production is specific to tea farms and depends on a number of factors (indicators). By reducing manual labor in tea production and improving its quality, it is clear that tea has significant potential to increase overall revenue from tea production through changes in production practices. In addition, the situation with the main river sources must be taken into account. At present, tea companies in Azerbaijan and Georgia receive higher funding for green leaves than farmers in India and Vietnam (Table 1).

Table 1. Average price of green tea leaves in some countries, USD / kg

Country of origin of the river	The average price of tea leaves
Georgia	0,30
Azerbaijan	0,64
Sri Lanka	0,57
India	0,10
Vietnam	0,09

According to the analysis of data, according to the average price of green tea leaves, Azerbaijani producers receive more than \$ 0.07 per kg from Sri Lanka, \$ 0.34 from Georgia, \$ 0.54 from India and \$ 0.55 from Vietnam. they take. This shows that one of the main reasons for the low productivity of tea in Azerbaijan is the manual collection of green tea.

Conclusions. The amount of subsidy determined by the state support for tea production enterprises in Azerbaijan is 700 AZN per hectare per year, and in Georgia the maximum subsidy is 2500 GEL (Georgian lari) per hectare. As a result of the calculations made on the basis of subsidies allocated by the state for the expansion of tea, it was determined that the amount of subsidies provided in the amount of 4900 AZN / ha in recent years after the adoption of the State Program is slightly less than 50% of total investment.

In Georgia, the state's investment expenditures for the expansion of tea production can reach 8,000 GEL per hectare, ie the amount of subsidies provided under this scenario covers 25-30% of the total joint expenditures of the state in this direction. The high productivity of tea in Georgia compared to Azerbaijan can be explained by both the favorable climatic conditions for this plant and the high share of state support in the need for additional investment (the cost of closing the edges of plantations).

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