

REPUBLIC OF AZERBAIJAN

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ABSTRACT

of the dissertation for the degree of Doctor of Science

PROBLEMS OF INCREASING EXPORTS IN THE NON-OIL SECTOR

Speciality: **5312.01 – “Sectoral economics”**

Field of science: **Economic sciences**

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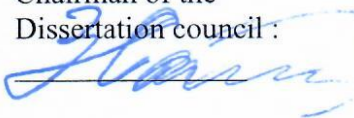
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GENERAL CHARACTERISTICS OF DISSERTATION

The actuality of the subject. Achieving double economic growth in the Republic of Azerbaijan by 2030 has been declared as one of the main strategic challenges ahead. In order to increase the annual growth rate of the economy, especially in the post-pandemic period, it is important to determine national development priorities based on the expansion of non-oil exports and to realize strategic tasks such as active integration into the global value chain. We can confidently state that the non-oil sector will play an exceptional role in enabling Azerbaijan's successful transition to a new model of economic growth and development.

In recent years, the development of the non-oil sector and the increase in non-oil exports have always been the focus of the country's leadership. "A long-term strategy for non-oil exports should be developed and this strategy should be related to existing markets and access to promising markets", Azerbaijani President Ilham Aliyev said at a meeting on the 2019 results on January 13, 2020. He also emphasized the importance of the Ministry of Economy working closely with the Ministry of Agriculture in this area: "Because our main non-oil exports are agricultural products".

This order of the President also conditioned new research on the role of agricultural products in increasing non-oil and gas exports in our country. It should be noted that despite the decline in non-oil exports in Azerbaijan in 2020, the growth rate in agricultural exports has been maintained. Overall, our analysis showed that Azerbaijan's non-oil exports increased by 22 percent in 2020 compared to 2011. During this period, agricultural exports have tripled. One of the interesting nuances is that in 2020, per capita non-oil and gas exports increased by 11% compared to 2011 and amounted to 183 dollars. In this period, agricultural exports per capita increased by 2.7 times. That is, per capita agricultural exports increased from 28 US dollars in 2011 to 75 US dollars in 2020. In 2021, greater success was achieved in non-oil and gas exports. Compared to 2020, our non-oil exports in 2021 increased by 47.2 percent and amounted to 2.7 billion US dollars. As a result, per capita non-oil and gas exports approached 270 US

dollars. In 2021, exports of agricultural products increased by 15.1% and amounted to 877.2 million US dollars.

In addition, while agricultural products accounted for 17% of non-oil exports in 2011, this figure was 41% in 2020. One of the important nuances here is that the self-sufficiency of the leading agricultural products (tomato, hazelnut, date, cottonseed meal, etc.) is high and the increase in the export of these products does not pose a problem for the prices in the domestic market. In fact, we estimate that there is a great potential to increase agricultural exports in the coming years. “Strategic Roadmap for National Economic Perspective of the Republic of Azerbaijan” approved on December 6, 2016, aims to increase per capita exports in the non-oil sector to at least 450 dollars by 2025. The document “Main directions of the Strategic Roadmaps for National Economy and Key Sectors of the Economy” also determines 8 priority sectors for the economy of Azerbaijan by 2025 , and one of these sectors is agriculture.

In order to ensure the implementation of the Order of the President of the Republic of Azerbaijan dated March 19, 2020 “On a number of measures to reduce the negative impact of the pandemic of coronavirus (COVID-19) and, consequently, sharp fluctuations in world energy and stock markets on the economy, macroeconomic stability, employment and entrepreneurship in the country”, agriculture and processing industry have been selected as priority sectors in the Action Plan approved by the Cabinet of Ministers. The statements indicate that the activities initiated in the field of formation and development of diversified agriculture in Azerbaijan should be deepened in order to realize the opportunities created by the natural climatic conditions of the republic. Our calculations and forecasts based on the financial programming model also show that the development of the non-oil sector will be of exceptional importance for Azerbaijan in the context of declining oil production until 2030. In other words, urgent measures will be needed to develop the non-oil sector and increase exports to the agricultural sector, especially in the post-pandemic period. This situation shows once again the urgency of the problem of increasing the export of agricultural products and the need for extensive research in this area. The dissertation aims to help

solve a new scientific problem that is important in increasing exports in the agricultural sector.

An important part of our research was an in-depth study of the literature in the field, a comparative analysis and obtaining scientifically substantiated results. The problem of increasing exports in the agricultural sector has been regularly addressed. The approach of many researchers, including Azerbaijani economists, to the problem from different perspectives and the main results obtained can be considered as important steps in the solution of the problem. Thus, the theoretical, methodological and practical aspects of the development of the agrarian sector and the increase of agrarian exports have been studied by many Azerbaijani economists, such as Samadzadeh Z.A., Guliyev E.A., Ibrahimov E.R., Atashov B.Kh., Salahov S.V., Huseynov M.J., Aliyev I.H., Khalilov H.A., Balayev R.A., Abbasov V.H., Abbasov A.F., Aliyev Sh.T., Ganjiyev G.A., Ibrahimov I.H., Gasimli V.A., Shakaraliyev A.Sh., Karimli I.A., Ganbarov T.A., Huseyn R.Z., Fikretzadeh F.F., Valiyev A.H. and others. Also, foreign scientists such as B.Balassa, M.Bruno, S.Davidova, P.Krugman, M.Gorton, Michael L.Morris, L.Latruffe, J.Marcusen and others, including the classics, such as A.Smith, D.Ricardo, M.Portet and others have done significant research in this direction.

In addition, although research has been conducted to increase export of agricultural products in the country, especially in the post-pandemic period, the study of the problems of increasing agricultural exports has not been the subject of special research, monograph, or thesis. The aforementioned researchers did not intend to study the problems of increasing export of agricultural products in the post-pandemic period. Our research is directly related to the problem of increasing the export of agricultural products.

The object of the research is the export of agricultural products produced by all categories of farms operating in the Republic of Azerbaijan, regardless of the form of ownership.

The subject of the research is the factors that increase the export of agricultural products, which have a significant share in non-oil exports, ways to regulate and improve exports, opportunities, methods, and criteria for solving the problems in this field.

The purpose and the objectives of the research. The purpose of the research is to increase the export of agricultural products of the Republic of Azerbaijan in the context of globalization, to assess the competitive advantage of currently exported agricultural products, to identify the factors of their formation and to develop scientifically substantiated proposals for the effective use of existing potential. To achieve the set goal, the following tasks have been set:

- study of theoretical and methodological aspects of increasing and supporting the export of agricultural products in the country;

- determination of opportunities to increase exports of agricultural products in accordance with the requirements of globalization;

- assessment of the impact of WTO membership on exports of agricultural products;

- defining the characteristics of comparative advantages in the production of agricultural products and study the mechanisms of their implementation;

- determination of comparative advantage and competitive advantage in agricultural exports of the Republic of Azerbaijan and a comprehensive assessment of the current situation in the field of exploiting these advantages;

- determination of development directions of export-oriented agricultural production in the Republic of Azerbaijan;

- assessment of the impact of increased food exports on the country's food safety;

- determination of measures to expand exports of agricultural products and increase productivity in accordance with the requirements of globalization;

- study of the development directions of the modern transport and logistics system related to the delivery of export products to the markets;

- development of forecasts for the realization of Azerbaijan's agrarian export potential and determination of ways to increase the production capacity of export-oriented agro-industrial products in the post-pandemic period;

- making proposals and recommendations for the integrated development of agriculture based on the export-oriented development model.

Research methods. In the research process, monographic, economic-statistical, balance, target-program, mathematical model, and other methods have been applied.

Theoretical basis is the works of economists of our country and foreign countries on the problems of increasing exports of agricultural products, as well as laws, decisions, decrees, orders, and normative documents of the supreme legislative and executive bodies of the Republic of Azerbaijan. In the dissertation, data from The State Statistical Committee of the Republic of Azerbaijan, the Ministries of Agriculture, Economy, Finance and other, as well as production, processing and service enterprises and organizations, relevant executive bodies and the research of the Agricultural Economics Research Center and special review materials have been used.

The main provisions to be defended. The following provisions reflecting the need to increase the export of agricultural products are defended in the dissertation:

- The effect of the increase in the export of agricultural products on the development of the country's economy, the study of strategic goals in this area and the determination of their development trends and development problems;

- Determination of the relationship between increasing exports of agricultural products and food security policy, analyze of global advanced strategies for import substitution and export expansion, and formation of models in this area;

- Determination of comparative advantages of export-oriented agricultural products, development of criteria and models by conducting strategic analysis and evaluation of agricultural exports of Azerbaijan;

- Identification of problems in the development of e-commerce technologies in the country and development of directions for their solution;

- Development of ways to use the potential of the liberated regions (Karabakh and East Zangazur economic regions) and solve problems in increasing exports in the agricultural sector;

- Determination of opportunities for the development of Azerbaijan's agro-industrial products along value chains and on a cluster basis;

- Introduction of proposals on improving the incentives for the production and export of export-oriented agricultural products;

- Development of guidelines to broaden the scope of innovative financial services in the agricultural sector and increase its role in strengthening exports;

- Determination of ways to increase production capacity for export-oriented agro-industrial products in the postpandemic period and development of forecasts and recommendations.

Scientific novelty of the dissertation. The dissertation is one of the first studies to comprehensively examine the problems of increasing the export of agricultural products in Azerbaijan. Scientific novelties obtained as a result of the research are as follows:

- The theoretical views on exports, including non-oil exports, have been analyzed, and generalizations have been made taking into account the theories of comparative advantage and competitive advantage;

- Factors affecting the export of the Republic of Azerbaijan in the agricultural sector have been identified;

- The impact of the increase in exports of non-oil products on the development of the national economy has been evaluated and the aspects for increasing exports in the post-pandemic period have been developed;

- The current situation in the country's agricultural production has been comprehensively assessed and proposals have been made for the effective use of existing potential;

- Opportunities to increase exports of environmentally friendly products and non-traditional agricultural products have been identified;

- By analyzing the current situation with the certification of export-oriented products in the agricultural sector, the factors and environment that negatively affect exports have been characterized;
- The perspectives on using the potential of the liberated regions (Karabakh and East Zangazur economic zones) to increase exports in the agricultural sector have been determined;
- The possibilities of the modern transportation and logistics system for the delivery of export products to the markets in our country have been comprehensively analyzed and the priority directions in this area have been determined;
- Opportunities for the development of agro-industrial products along value chains and on a cluster basis have been identified;
- Proposals have been developed to increase the range of financial services that affect the expansion of exports in the agricultural sector;
- Forecasts for the postpandemic period have been developed, a number of important proposals have been made to realize the production potential of export-oriented agro-industrial products.

Theoretical and practical significance of the research. The provisions and practical recommendations summarized in the study are able to assess the impact of factors that contribute to and hinder the growth of agricultural exports and significantly accelerate the solution of problems in increasing exports in the non-oil sector using the effect of economic regulation. Practical recommendations and perspective parameters can be used to address the issue of increasing exports of agricultural products.

Approbation and implementation of the research. The candidate's 28 articles and theses have been published in local and foreign journals abroad. The candidate's 8 articles and 2 theses have been published in authoritative foreign journals and conference proceedings recommended by the Supreme Attestation Commission under the President of the Republic of Azerbaijan.

The main theoretical provisions of the research and the results obtained have been the subject of discussion at symposiums, conferences and seminars at the international and national in 2015-2021. Moreover, theses have been published in the proceedings of the

international scientific-practical conference dedicated to the 100th anniversary of the Azerbaijan Democratic Republic (Baku, June 1-2, 2018), international scientific-practical conference dedicated to the 60th anniversary of the Institute of Economics of ANAS (Baku, October 18, 2018), I international scientific-practical conference held by Azerbaijan Technical University (December 18-20, 2019), scientific-practical conference "Sustainable development of agriculture: global challenges and reforms in Azerbaijan" (December 15, 2020) and the international conference held in the Russian Federation (Scientific forum: economics and management. Book of proceedings based on materials of the LI International Scientific and Practical Conference - Moscow.2021).

Furthermore, candidate's articles, such as "Problems of regulating the use of Azerbaijan's export potential in the non-oil sector", "Non-oil sector as a factor in the economic development of Azerbaijan", "Ways to improve the financial security of agricultural producers", "Assessment of agricultural sustainability", "Current state of export of cotton and cotton products and prospects of its development", "Non-oil export challenges of oil countries in case of Azerbaijan", "Historical peculiarities and actual problems of increasing export potential", have been published in authoritative foreign journals.

The organization in which the dissertation has been accomplished. The research has been accomplished at the Agricultural Economics Research Center under the Ministry of Agriculture of the Republic of Azerbaijan. During the research, the subject of the dissertation has been in line with the general direction of research work of the Agricultural Economics Research Center and has been approved by the Coordination Council for Economic Sciences under the Presidium of ANAS (November 20, 2018, protocol №6).

The structure and total volume of the dissertation. The total volume of the dissertation consists of 454596 characters (Chapter I – 61411 characters, Chapter II - 64012 characters, Chapter III - 74074 characters, Chapter IV - 74874 characters, Chapter V - 112006

characters). The number of characters in the dissertation, excluding tables, figures and bibliographies, is 420885 characters.

BRIEF OVERVIEW OF THE DISSERTATION

In the introduction of the dissertation, the actuality of the subject, the object and the subject of research, purpose and objectives, methods, the main provisions to be defended, scientific novelty, theoretical and practical significance, approbation and implementation and the total value of of the research have been reflected.

In the first chapter of the dissertation “Theoretical and methodological bases of exports in the non-oil sector”, scientific views on exports have been researched, methodological approaches to increasing exports of non-oil sector products have been studied, and the impact of the increase in the export of agricultural sector products on the development of the national economy has been determined.

The emergence and development of trade as the primary form of foreign economic activity has a long history. In the early stages of human society, community interests began to come to the fore in the primitive community structure, although people only sought to meet their individual needs. In the era of slavery, while commodity production, exchange and foreign trade were still in their embryonic state, conditions were created for the expansion of commodity production in feudalism, which was dominated by natural economy. Capitalism is also characterized by the rapid development of commercial relations. The territory of the Republic of Azerbaijan has historically traded with many countries in Europe, the Middle East and the Far East by land and sea. According to historical sources, silk, wool and cotton fabrics, clothes, dried fruits, saffron, rice, oil, fish, copper and pottery, dyes and other goods were exported from our country to foreign markets. The first chapter focuses on the views of economists with differing views on the development of trade, their approach to agricultural trade, and the evolution of scientific views on exports to date.

While theories help economists, governments, and businesses better understand the basics of international trade and how to promote, regulate, and manage it, they sometimes contradict emerging trends.

Countries do not have absolute superiority in many areas of production or service, and indeed the factors of production are not evenly distributed among countries. However, emerging digital commerce platforms are changing both the production and consumption paradigms of goods and services. Thus, digital tools can help companies analyze the demand for their products in potential target markets and evaluate customer potential and even online marketing and e-commerce sales. Experts point out that millions of people around the world are now trading on online platforms and therefore digital transformation is needed. On a larger scale, technology-based platforms already allow for the realization of a demand economy (some call it a sharing economy).

This chapter focuses on methodological approaches to increasing exports of non-oil products. Here, the Comparable Advantages, Export Market Shares, Net Export Index, Relative Import Advantage, Relative Export Advantage, Internal Resource Expenditure methods have been used, and the localization coefficient has been calculated.

In the of the World Bank, HHBTİ indicator for Azerbaijan has been indicated. According to the World Bank, the world average HHBTİ in 2011-2015 was 0.04. Calculations on the relevant indicators of Azerbaijan show that the average HHBTİ indicator for the period was 0.12. This means that the diversification of trade partners is higher than the global average, that is relatively weak diversification.¹

One of the methodologies that measures the diversification ability of the economy and thus evaluates the export diversification potential is the “Complexity (or Diversity) Index of the Economy”. Although Azerbaijan was ranked 99th in the world on this index in 2010, it was ranked 90th in 2019. In 2019, Azerbaijan ranked 74th in the world in exports and 88th in total imports. However, according to the results of the relevant report, the country's economy has lost its position in diversification significantly for a total of 19 years (declining from 40th to 90th place). In terms of exports, Azerbaijan

¹<https://wits.worldbank.org/CountryProfile/en/Country/AZE>

ranked 74th in the world in 2019, lower than the previous years (70th in 2014).²

The implementation of foreign economic activities is important for the country's economy. In 2020, 1160.6 million manats of taxes were paid to the state budget related to foreign economic activity, which was 4.5 percent of state budget revenues (26075.4 million manats). The agricultural sector is also important in terms of Azerbaijan's export potential.

In the dissertation, the impact of the increase in the export of agricultural products on the development of the national economy has been comprehensively studied and the role of agriculture in the economy has been analyzed. The role of the agricultural sector in Azerbaijan in increasing the country's non-oil exports has increased in recent years. Furthermore, agriculture provides the largest share of employment in the country (36 percent), although it accounts for 6 percent of GDP. Although the agricultural sector is one of the key areas for Azerbaijan's participation in global value chains, the analysis shows that Azerbaijan's agricultural exports are well below potential. This is due to the weak participation of small and medium-sized enterprises, as well as small farms in the production and processing processes. The underdevelopment of the agricultural sector in the country is also due to the lack of modern production tools and educated farmers. Therefore, agricultural productivity in Azerbaijan is low compared to former Soviet countries such as Belarus and Russia. Research has also shown that a number of Azerbaijani agricultural products have a comparative advantage in the Russian and European markets. Certainly, the expansion of agricultural production and export opportunities has a positive impact on other sectors of the national economy.

Although the Azerbaijani economy contracted by 4.3 percent in 2020 due to the coronavirus pandemic, the agricultural sector grew by 2 percent. In 2021, the dynamics of growth in the agricultural sector has been established and maintained. Thus, compared to 2020, the production of agricultural products increased by 3.4 percent in 2021.

²<https://oec.world/en/profile/country/aze>

In 2021, the share of value added in agriculture, forestry and fisheries in GDP was 5.9 percent. In general, the role of the agricultural sector in the Azerbaijani economy is wide and multifaceted.

The role of agriculture in the structure of the country's non-oil exports is also important. In exports, crop products are more prominent than livestock products. According to the table, in 2020, there were no livestock products among the agricultural products with a share of more than 1 percent in non-oil exports.

Table 1. Some agricultural products exported from Azerbaijan in 2020-2021³

Product code	Product name	2020		2021	
		Amount (thousand US dollars)	Share in non-oil exports, %	Amount (thousand US dollars)	Share in non-oil exports, %
070190	Potatoes, fresh or chilled, others	33785	1,8	40077,7	1,5
070200	Tomatoes, fresh or chilled	201353,53	10,9	160228,8	5,9
080222	Peeled hazelnuts	113588,07	6,1	108754,6	4
080810	Apples, fresh	29500,86	1,6	37364,4	1,38
080929	Fresh tart and sweet cherries, others	48615,83	2,6	31076,4	1,1
081070	Date, fresh	91586,68	4,9	125895	4,6
081090	Other fresh fruits (pomegranate, etc.)	36739,85	2,0	29253,67	1,1
520100	Cotton fiber, not carded	131930,21	7,1	207979,96	7,7

The export of livestock products is still insufficient. In 2020, 8.3 million dollars worth of leather and 2.5 million dollars worth of other livestock products (meat, milk and cream, wool, natural honey, raw silk and live animals) were exported. In 2021, leather and leather products worth 12.1 million dollars and other livestock products worth 5.7 million dollars were exported. However, by 2030, the export potential of livestock products may increase.

In our opinion, if it does not pose a special threat to the country's economic and food security, it is possible to use resources more efficiently and maximize profitability by supporting non-competitive sectors and spending money instead of supporting competitive agricultural sectors. Our analysis also shows that prioritizing the

³ Source: Developed according to the data from State Statistical Committee of the Republic of Azerbaijan

production and export of the crop sector is more important for the development of the national economy. Vegetable products, unlike livestock products, have a high share in non-oil exports and have an exceptional importance in the formation of income sources for the national economy, the inflow of foreign currency into the country and thus maintaining macroeconomic stability.

In the second chapter of the dissertation “Conditions and factors for increasing exports in the agricultural sector”, the effect of integration with international economic organizations on the export of agricultural products has been determined, the relationship of increasing the export of agricultural products with food safety policy has been studied, and global advanced strategies for import substitution and export expansion have been analyzed. The Republic of Azerbaijan borders on the Eurasian Economic Union, and the export of basic agricultural products is carried out to the Russian Federation, a member of this union. However, Azerbaijan is not a member of the Eurasian Economic Union. Since 1997, Azerbaijan has been negotiating to join the WTO. For information, the WTO was established on January 1, 1995 on the basis of the General Agreement on Trade and Tariffs (GATT) and its successor, the Uruguay Round. It covers 164 countries, accounting for more than 98 percent of world trade. As of 2021, 23 countries have officially applied for membership. The organization has the status of a single international organization that sets the rules of interstate trade at the global level.

It is important for Azerbaijan to benefit from the experience of post-Soviet republics at various stages of membership in this organization. Analysis of official data shows that there are a number of important challenges and risks in the process of Azerbaijan's accession to the WTO. The issue of WTO membership now requires strategic decisions on the form in which the export promotion policy will be pursued.

The specific weight of the value of local components of exported non-oil products produced in the territory of the Republic of Azerbaijan and used in the production process and non-oil products created in the territory of the Republic is determined on the basis of the certificate of origin. Export promotion is valid only for goods

originating from Azerbaijan. The correlation coefficient between non-oil export and non-oil export incentive has been also calculated in the study and a very strong positive correlation has been found (export correlation coefficient - 0.961730337). The calculation we made with the covariation formula to determine the relationship between the incentive for non-oil exports and the increase in non-oil exports is shown in Table 2.

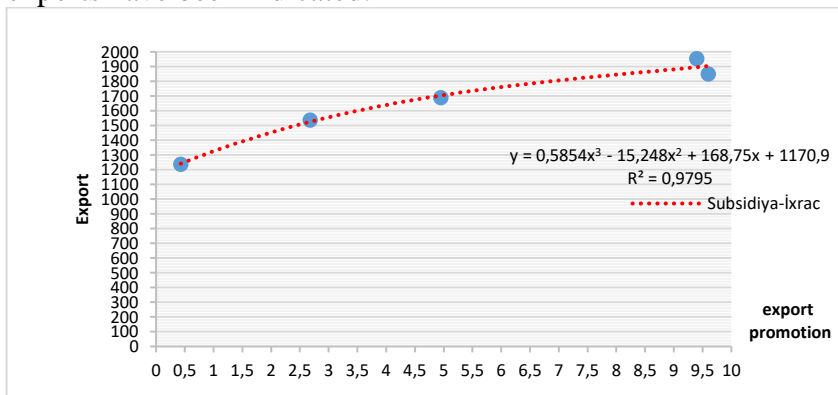
Table 2. Relationship between the incentive for non-oil exports and the increase in non-oil exports

Covariation formula:

$$covariation\ coefficient = \frac{1}{n} * \sum_i^n (x - \bar{x}) * (y - \bar{y})$$

Years	Export incentive	Export	Net Export	Export covariation coefficient	Net export covariation coefficient
2016	0,43	1237	1236,57	879,9344	866,746184
2017	2,68	1538	1535,32		
2018	4,95	1689	1684,05		
2019	9,4	1954	1944,6		
2020	9,6	1851	1841,4		

Our calculations with the polynomial cubic regression model also show a positive correlation between non-oil export promotion and non-oil export growth. In Graph 1, polynomial cubic regression and the impact of export incentives on the growth of non-oil and gas exports have been indicated.



Graph 1. Polynomial cubic regression

Integration of Azerbaijan in international economic organizations can also contribute to the deepening of the processing of agricultural products.

The dissertation also considers the issue of relating the increase in exports of agricultural products with food security policy. It has been stated that “Food Security Program of the Republic of Azerbaijan” was approved and successfully implemented by the national leader Heydar Aliyev on March 2, 2001. This policy has been successfully pursued by the President of the Republic of Azerbaijan, Mr. Ilham Aliyev, and our country has made significant progress in ensuring food security. As a result of comprehensive measures, Azerbaijan has consistently improved its position in the Global Food Security Index over the past seven years. According to the definition adopted by the Food and Agriculture Organization of the United Nations (FAO), food security includes 4 important components: availability of food, access to food, use of quality food and continuous supply of food. Professor E. Guliyev emphasizes that food safety not only provides the required food products, but also reflects their quality, caloric content and components. Overall, during the years of independence, our economists (B.Kh. Atashov, H.A. Khalilov, A.F. Abbasov and others) have done a lot of research on food security. Our study addresses the impact of increased agricultural exports on food security. An analysis of the “Global Hunger Index (GHI)”, based on the FAO, the United Nations Children's Fund (UNICEF), the World Health Organization, the World Bank and other reliable sources, also highlights the need to address the growing global food shortages. Thus, according to 2020 indicators, there are acute hunger problems in at least 30 countries globally.

Accordingly, at a time when food availability is exacerbated by climate change due to unforeseen natural disasters, the implementation of innovative approaches, such as establishment of early warning systems using information and communication technologies in agriculture, formation of databases, access to agricultural and climatic data, modeling and forecasting of natural phenomena, application of monitoring and control systems, is becoming a necessity. Thus, a number of important factors make food security an important factor

for the national economy, and it is necessary to take these factors into account when building export capacity. Ensuring food security of the Republic of Azerbaijan is also important in this regard.

For information, the level of self-sufficiency in crop products, especially fruits and vegetables, which is a main share in Azerbaijan's agricultural exports, is more than 100 percent.

According to our calculations, by 2030 the level of self-sufficiency in vegetables may increase from 110% in 2020 to 160%, and the level of self-sufficiency in fruits from 116% in 2020 to 220%. Thus, based on the role of this sector in the country's economic security and its impact on expanding export opportunities, decades of preventive measures have a positive effect on improving food supply of the population and strengthening food security. However, per capita food consumption should be increased to the level of developed countries in the coming years.

One of the importance of import substitution policy is that its development leads to the development of local production and the domestic market. As a result, new export opportunities arise when a sufficient level of self-sufficiency is achieved. At the same time, the domestic market is provided with local resources.

The research also provides a comprehensive analysis of global advanced strategies for import substitution and export expansion. It was stated that the import substitution policy is not new to the academic community. After the Second World War, at a time when economic development was defined by industrialization and capital investment, some developing countries adopted import substitution industrialization strategies. The import substitution policy still applies in some countries. Many countries, from Latin America to East Asia and Europe, have gone through various stages of this development. The study examined policies implemented in Japan, Taiwan, China, India, Korea, South Africa, Saudi Arabia, Kazakhstan and other countries to replace imports and expand exports.

As for Azerbaijan, it should be noted that in different years, our country has taken measures in a number of state programs, especially strategic road maps, and the necessary targets have not yet been fully achieved. Azerbaijan's mining products still dominate exports.

Therefore, in the development of export strategies in the country in the coming years, it is important to take into account the general economic, geographical factors of the country and the structure of the economy by sectors. From this perspective, in order to achieve high development trends, Azerbaijan needs to establish an agricultural export strategy with clear strategic objectives and indicators focusing on specific product groups and geographic markets.

In the third chapter of the dissertation “System-structural analysis of agricultural production and exports”, the current situation of agricultural production and exports of processed agricultural products has been analyzed, strategic analyzes and evaluations have been made regarding the export of agricultural products, and the comparative advantages of export-oriented agricultural products have been determined.

Table 3. Production of crop products in the Republic of Azerbaijan (thousand tons)⁴

Years	1990	1995	2000	2005	2010	2015	2020	Comparison of 2020 with 1990, %
Cereals, total	1413,6	921,4	1540,2	2126,7	2000,5	2999,4	3257,1	130
Potato	185,2	155,5	469,0	1083,1	953,7	839,8	1037,6	5,6 times
Vegetables	856,2	424,1	780,8	1127,3	1 189,5	1275,3	1738,9	103
Melon products	67,5	41,9	261,0	363,8	433,6	484,5	448,1	6,6 times
Fruits	367,4	324,4	477,0	625,7	729,5	888,4	1133,1	208
Grapes	1196,4	308,7	76,9	79,7	129,5	157,1	208	-83
Sugar beet	-	28,1	46,7	36,6	251,9	184,3	253,3	9 times (Compared to 1995)
Cotton	542,9	274,1	91,5	196,6	38,2	35,2	336,5	-38
Tobacco	52,9	11,7	17,3	7,1	3,2	3,5	6,9	-87%
Sunflower for grain	0,6	0,7	3,7	16,1	15,5	18,4	24,8	41,3 times
Tea leaves	30,7	9,41	1,08	0,73	0,54	0,58	0,93	-97

The first period of agrarian reforms implemented during the reign of national leader Heydar Aliyev has laid a solid foundation for the development of agriculture at all stages of the socio-economic development of Azerbaijan. As a result of these reforms, an economic system based on the private ownership of the land by the peasants and

⁴ Source: Developed according to the data from SSC

market relations in the agricultural sector has been successfully established. In recent years, the production of all agricultural products has increased, except for some product types.

In 2020, 2935.2 thousand tons of grains and legumes (excluding corn) were harvested from 955.4 thousand hectares of land, which was 9.8 percent less than in 2019. On average, 30.7 quintals per hectare was harvested. In 2020, 1738.9 thousand tons of vegetables (1.4 percent more than the previous year), 1037.6 thousand tons (3.3 percent more) of potatoes, 448.1 thousand tons (0.1 percent more) of melons collected. In addition, the average yield per hectare increased by 12 quintals for vegetables, 5 quintals for potatoes, 15 quintals for melons and amounted to 188, 174 and 224 quintals, respectively.

As shown in the table, the production of livestock products in the country has increased several times. Thus, compared to 2000, in 2019 the country's production of meat (cut weight) 2.2 times, milk 2.1 times, eggs 3.4 times, wool (physical weight) 1.5 times, and sericulture and honey 9.7 times increased. In 2020, the growth trends continued.⁵

Table 4. Production of basic livestock products in the Republic of Azerbaijan (For all economic categories)⁶

Years	Meat (cut weight), thousand tons	Milk, thousand tons	Eggs, million units	Wool (physical weight), thousand tons	Cocoons, ton	Honey, thousand tons
1990	175,5	970,4	985,3	11,2	4902	0,5
2000	153,6	1031,1	542,6	10,9	66,6	0,6
2010	244,9	1535,8	1178,6	15,6	6	1,9
2015	298,6	1924,5	1552,9	17,0	0,236	2,6
2020	346,0	2192,5	1906,2	16,1	446,6	6,6
Comparison of 2020 with 1990, %	97	2,3 times	93,5	43,8	-91	13,2 times
Comparison of 2020 with 2010, %	41,3	42,8	61,7	3,2	74,4 times	3,5 times

In 2020, 591.1 thousand tons (3.1 percent more than the previous year) of live weight meat, 2192.5 thousand tons (1.9 percent more) of milk, 1906.2 million units (4.3 percent more) eggs, 16.1 thousand tons (0.2 percent more) of wool and 446.6 tons of sericulture were

⁵<https://www.stat.gov.az/source/agriculture/>

⁶ Source: Developed according to the data from SSC

produced. However, although the production of sericulture and honey, which can significantly contribute to the growth of the country's non-oil exports and the development of the national economy, has increased in recent years, the indicators of the USSR period have not yet been achieved. This makes it necessary to implement larger-scale measures in this sector.

Although the country's agricultural production has increased in many areas, according to statistical analysis, there is an opportunity to achieve higher production and productivity and increase exports when the existing potential is fully used.

Although Azerbaijan's agricultural exports have increased several times in recent years, the potential of this sector has not been fully realized. One of the weakest local factors in Azerbaijan's exports of agricultural products is the high logistics costs and the lack of direct sea access to developed Western countries. The World Bank's assessments also show that Azerbaijan has a relatively weak performance in this area.⁷ Furthermore, the most important mega-projects implemented in recent years in terms of the development of transport and logistics capabilities have been mainly related to the oil and gas sector. Moreover, farmers and entrepreneurs have limited access to finance due to high interest rates.

Compared to 2020, exports in the non-oil sector in 2021 increased by \$ 870 million or 47.2 percent and amounted to 2.7 billion US dollars. In 2021, the export volume of agricultural products increased by 15.1 percent compared to 2020 and amounted to 877.2 million US dollars.

Fruits and vegetables came to the fore in agricultural exports. According to the graph, the total value of fruit and vegetable exports in 2020 amounted to 607.5 million US dollars and the volume to 606.5 thousand tons, the share in non-oil exports was 32.8 percent, and the share in total exports was 4.4 percent. Tomatoes, hazelnuts, apples, dates, cotton and other agricultural products have a special weight in Azerbaijan's non-oil exports.

⁷ <https://lpi.worldbank.org/international/aggregated-ranking>

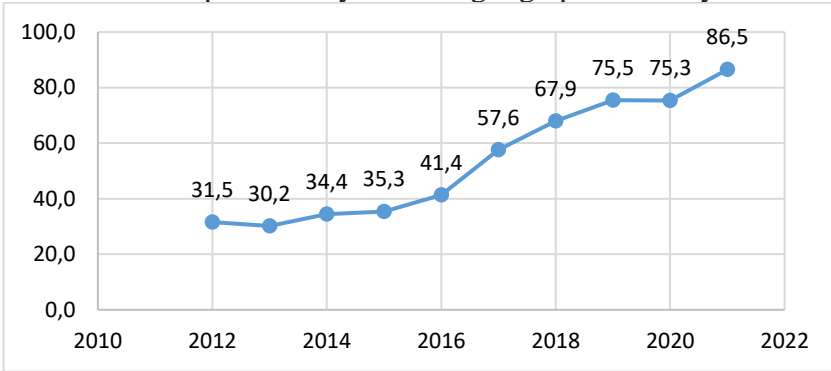
Table 5. The state of the level of achieving the goals of the adopted sectoral state programs on agriculture in the Republic of Azerbaijan⁸

Name of state program	Name of indicator	The state before the program was adopted	Actual indicators (2020)	Target indicators
State Program on the development of silkworm breeding and sericulture in the Republic of Azerbaijan for 2018-2025	Production of wet cocoons by 2025	245.2 tons	446.6 tons	6 thousand tons
State Program on the Development of citrus fruit growing in the Republic of Azerbaijan for 2018-2025	Citrus production by 2025	42.8 thousand tons	46.7 thousand tons (for 2019)	100 thousand tons
State Program on the development of wine-making in the Republic of Azerbaijan in 2018-2025	Wine exports by 2025 (HS 2204-2205)	Worth 6 million US dollars	Worth 4 million US dollars	Increase 5 times
State Program on the development of tea-growing in the Republic of Azerbaijan for 2018-2027	On tea-growing by 2027: -sown area -gathering of green tea leaves	1.1 thousand ha 0.7 thousand tons	1.1 thousand ha 0.9 thousand tons	3 thousand ha 8.5 thousand tons
State Program on the development of paddy-farming in the Republic of Azerbaijan for 2018-2025	On paddy until 2025: -average productivity -sown areas -volume of production	31.7 q/ha 5.1 thousand ha 16.2 thousand tons	32.8 q/ha 3 thousand ha 9.9 thousand tons	40 q/ha 10 thousand ha 40 thousand tons
State Program on the development of cotton-growing in the Republic of Azerbaijan for 2017-2022	Production of raw cotton by 2022	89.4 thousand tons	336.5 thousand tons	500 thousand tons
State Program on the development of tobacco-growing in the Republic of Azerbaijan for 2017-2021	On tobacco production by 2021: -average productivity -sown areas -volume of production	15.2 q/ha 2.3 thousand ha 3.5 thousand tons	22.1 q/ha 3.1 thousand ha 6.9 thousand tons	20 q/ha 6 thousand ha 12 thousand tons

According to the analysis of data from the platform of the Food and Agriculture Organization of the United Nations (FAO), in 2019,

⁸ Source: Developed by author

the productivity of apples (100.9 q/ha), dates (162 q/ha), hazelnuts (12.4 q/ha) and tobacco (19.3 q/ha) in Azerbaijan lags behind the world average. This leads to a significant increase in the export potential of these products by achieving high productivity.



Graph 2. Per capita export of agricultural products in Azerbaijan, in US dollars⁹

Sustainable development of the agro-processing industry in the Republic of Azerbaijan is necessary for realizing the export potential of the non-oil sector and ensuring food security. Compared to 2019, production in 2020 increased not only in a number of agro-processing industries, but also in other non-oil refining industries (Table 8).

Table 6. Production volume of processing industry products in Azerbaijan, in million manats

Products	1995	2000	2005	2010	2015	2019	2020
Food production	172,5	657,1	1094,5	1924,6	2307,6	3584,8	3741,3
Beverage production	5,0	24,1	72,5	170,2	197,7	433,1	420,3
Tobacco products production	7	17,7	30,5	22,3	27,2	248,9	436,7
Textile industry	148,2	24,6	34,8	29,4	31,7	304,3	281,8

In 2020, the production of food, tobacco and beverages reached 4.5 billion manats. For comparison, the production of oil products, which is second in the list, amounted to 3.1 billion manats. Compared to 2019, the production of tobacco products decreased by 7.9 percent,

⁹ <https://www.stat.gov.az/source/agriculture/>

beverage production by 13.7 percent, and food production by 2.1 percent in 2020.

According to statistical analysis, Azerbaijan's results are also weak in terms of the range of products exported. Thus, Azerbaijan ranks 103rd in the world in terms of the number of products exported with 1450 types of products.¹⁰

During the research, we have calculated the Trade Specialization Index (TSI). Trade Specialization Index is used by researchers to assess the comparative advantage and competitiveness of agricultural exports.

The research shows that the Trade Specialization Index for cotton fiber, tomatoes, apples, pears, cotton yarn, hazelnuts, cucumbers, grapes and carrots is higher than zero. This shows that Azerbaijan is competitive in exports of that product or group of products.

In the dissertation, Revealed Comparative Advantages (RCA) for exported agricultural products has been also calculated. We know that the higher the RCA for any product, the higher the country's export capacity for that product. Our calculations have reaffirmed that our exports of tomatoes, shelled hazelnuts, dates, tart and sweet cherries, cotton fiber, potatoes, onions and cucumbers have a clear comparative advantage ($RCA > 1$).

The analysis also shows that Azerbaijan's dependence on non-oil exports from only three countries is 68 percent, which is a very weak indicator in terms of diversification of export geography. In addition, most products exported from Azerbaijan are included in the classification groups of low and medium-low technological level. Processing of agricultural products and their export to foreign markets as a final product can make a positive contribution to the diversification of Azerbaijan's exports of these products and the reduction of dependence on any single market.

In the fourth chapter of the dissertation “Directions for increasing agricultural exports in Azerbaijan”, opportunities for the development of agro-industrial products in the country along the

¹⁰<https://wits.worldbank.org/CountryProfile/en/Country/BY-COUNTRY/StartYear/2015/EndYear/2017/Indicator/NMBR-XPRT-PRTR#>

value chains and on the basis of clusters have been researched and determined, the procedures for the delivery of export products to the markets, the development aspects of the transport and logistics system and the use of the potential of the liberated regions to increase exports in agriculture have been envisaged and forecasted.

According to the International Trade Center, the products with the largest export potential in Azerbaijan are tomatoes, fresh fruits and polyethylene. Tomato exports are one of the largest differences between potential and actual exports. There are opportunities for additional exports worth 122.8 million US dollars. Moreover, one of the weaknesses of the country's agriculture is the fact that in agrarian policy, supply (production) orientation has an advantage over demand (market) orientation and needs to be improved based on the value chain approach.

On the basis of the formed methodological framework for the development of the agrarian industry along the value chains, a comprehensive approach to the development of the agrarian sector, the development of value chains and the introduction of clustering are proposed. As a result of our research, there is a serious need to expand the measures on the formation of a “green market” network, meat-cutting and sales centers that meet the requirements, pilot “farm shops” as a better alternative to traditional markets for the development of the infrastructure for the sale of agricultural products and the establishment of specialized wholesale markets for agriculture in various regions.

In addition to its social and political consequences, the liberation of the territories occupied by Armenia in 2020 has created a new environment and opportunities of economic significance. Research has been conducted to reintegrate the liberated territories and increase export potential. Our conclusion is that the most advanced institutional solutions can be achieved by creative-restoration and humanitarian activities with the involvement of international development agencies and investors, public-private cooperation, return of IDPs and other approaches.

By the way, academician Ziyad Samadzadeh, who has been dealing with regional problems of Azerbaijan's economic development

for a long time, made valuable proposals on the development of our territories to be liberated from occupation in his work written in 1995. The academician pointed out that Karabakh is one of the regions with diversified agriculture. Based on these proposals, we should achieve the development of diversified agriculture in Karabakh. In addition, Professor N. Muzaffarli also wrote valuable works on the conceptual basis of the restoration of post-conflict territories in 2010 and made valuable proposals on the measures to be taken after the liberation of our territories from Armenian occupation. Some of these proposals also included issues of agricultural development. He has stated that 200.000 hectares of fertile land in the liberated areas should be used efficiently.

A special program will be implemented to increase access to strategic assets, rich resources and foreign markets that can attract investors to Karabakh by attracting local and foreign private investment, loans, grants, technical assistance, crowdfunding, crowdinvesting, venture capital, seed investments.

Construction work in these areas can be carried out within the framework of the country's overall development strategies, that is, by reintegrating the liberated areas and joining them in value chains. By calculating the damage caused by Armenia to land, water, forest resources, minerals, property, and cultural resources and most importantly to civilians with the involvement of international experts, the funds to be obtained while filing claims against the other party will have a positive impact on the future development of these areas. According to the estimates of relevant government agencies, agriculture in Karabakh may produce about 1 billion manats of additional products, which may ultimately lead to an increase in both the non-oil sector and exports in the country.

Analysis of the sectoral economic profiles of the Karabakh and East Zangazur economic regions also shows that there is considerable potential for reviving the non-oil sector and increasing exports. Thus, it is planned to establish 4 regional centers based on the comparative advantages of the liberated territories. It is planned to establish an industrial center in Aghdam, a logistics and trade center in Jabrayil, a

culture and tourism center in Shusha, and a production and tourism center in Kalbajar.

As a result of our research, the analysis of the socio-economic profile of the liberated regions shows that there are great opportunities for the development of the non-oil sector in these regions. According to estimates, the development of the regions in the coming period, taking into account the traditional spheres of economic activity, will have a significant impact on increasing the country's non-oil exports in the future. Moreover, abundant water resources in the liberated regions will have a positive impact on agrarian development in other regions of Azerbaijan. From this perspective, we can predict an increase in agricultural production, especially due to irrigation in Aran zone (Lowlands). Prolonged continuation of demining operations may delay the development of agriculture and export opportunities in these regions. One of the most important issues is the application of “smart village” and “smart city” approaches in the development of agricultural areas in these regions and the basis of agricultural production on the latest technologies.

The dissertation also includes research in the field of adaptation of certification mechanisms for export-oriented agro-industrial products to modern requirements. Recently, as the strategic priority is the large-scale integration of the Azerbaijani economy into world markets and the increase in exports of non-oil products, the need to bring the national standardization system that defines product requirements in line with international standards has increased. In this regard, E.Mikayilov's research shows that one of the important challenges in the field of export of non-oil products is the impossibility of exporting local products due to the inability to produce local products in accordance with international standards and the lack of recognition of existing certificates by importing countries.

One of the important issues in increasing the export capacity of the agricultural sector is the certification of exported products. This is because when products are exported, they are allowed to enter the importing countries only after the recognition of certificates at the customs points or re-certification procedures. Although the table contains information on obtaining a certificate of origin and quality

related to the export of goods, it is required to obtain others before obtaining these certificates. Therefore, the number of certificates depends on the country of export, as well as the type of product.

In accordance with the action plan to stimulate the export of non-oil products, measures have been taken to support the formation of private quality management organizations and their international accreditation. However, there is a need to deepen activities in this area.

According to official statistics used in the study, there are about 154,000 trucks of all categories in the country's truck fleet. In the interviews with the exporters, it was revealed that they had difficulties in transportation during peak periods. In this case, the cost of transportation services rises between 50-70 percent and they have to use the services of foreign transport companies. For this reason, it is important to solve the problems in the field of transport and logistics in terms of realizing the export potential of the agricultural sector.

We had use the analysis of the World Bank's Doing Business 2020 report in our work on simplifying the procedures for the delivery of export products to the markets and improving the transportation and logistics system. An analysis of this report shows that Azerbaijan lags behind Europe and Central Asia in terms of time and cost of documentation required for export. Our country ranks 83rd among 190 countries on the “Trading Across Borders” indicator.

Table 7. Comparison of export performance indicators with Georgia in the Doing Business 2020 report¹¹

Foreign trade indicators, countries	Azerbaijan	Georgia
Time spent at the border for export (hours)	17	6
Export costs at the border (US dollars)	214	112
Time spent on export documentation (hours)	33	2
Expenses for export documentation (USD)	250	0

Although hundreds of portals are currently engaged in e-commerce in Azerbaijan, most of them operate at an amateur level. In addition, during our research on the security of e-commerce portals in Azerbaijan, it was revealed that the security of cards in the online payment system is protected in almost the same way and the portals

¹¹ https://www.doingbusiness.org/en/date/exploreconomies/azerbaijan#DB_tab

are not responsible for any threat. This requires strengthening the regulatory framework at the legislative level.

The analysis of the statistics also shows the importance of the portal in terms of increasing non-oil exports. Thus, in January-December 2020, the Azexport.az portal received an export order worth 610.8 million US dollars. The value of export orders received by the portal in 2020 is 2.5 percent higher compared to 2019. The value of export orders received by the portal in December 2020 amounted to 57.5 million US dollars. The largest export orders were for hazelnuts, chicken and eggs, cotton pulp, tobacco, tea, pomegranate, wine, confectionery, cosmetics, motor oil, bedding, wheat bran, cottonseed oil, saffron, peas and other goods. Overall, the total export order volume received by the portal from 142 countries from January 2017 to December 31, 2020 (for 48 months) amounted to 2 billion 195.6 million US dollars.

However, cross-country comparisons of e-commerce show that there are still potential opportunities for development in this area. According to the latest report of the The United Nations Conference on Trade and Development (UNCTAD), Azerbaijan ranked 65th among 152 countries in e-commerce, down two places compared to the previous year. During the rating, UNCTAD assessed the state of Internet use in the country, access to banking services, mobile payment systems, secure servers, the number of online stores, the status of mail, delivery service, parcel delivery time. In rating, Belarus ranks 35th, Russia 41st, Georgia 47th, Ukraine 51st, Moldova 53rd, Kazakhstan 60th and Armenia 84th.¹²

Analyses show that e-commerce platforms such as Azexport have great potential to increase the country's exports of non-oil, especially agricultural products. The development of a transport and logistics network, including e-commerce, can help increase the country's agricultural exports at least several times. Also, based on the potential of Guba-Khachmaz, Ganja-Gazakh, Lankaran and Aran economic regions, it is considered expedient to organize the construction of dry and cold storage in these economic regions.

¹² https://unctad.org/system/files/official-document/tn_unctad_ict4d17_en.pdf

In the fifth chapter of the dissertation “Improvement of export promotion mechanisms in the agricultural sector”, opportunities to increase exports of environmentally friendly and non-traditional agricultural products and improve the mechanisms for promoting the production and export of export-oriented agricultural products have been studied, mechanisms for certification of export-oriented agro-industrial products and the role of innovative financial services in the post-pandemic period have been researched and ways to increase the production capacity of export-oriented agro-industrial products in the post-pandemic period have been identified.

The right of citizens to a safe and healthy diet is enshrined in the 1996 Rome Declaration, which places serious responsibilities on food producers. Increasing the production of environmentally friendly products as one of the means of expanding export channels has been one of the important places in Azerbaijan's export policy in recent years. State programs on socio-economic development of the regions, poverty reduction, environmentally sustainable socio-economic development have been implemented and measures have been taken to improve the welfare of the population, increase employment, and the socio-economic development of the regions.

For information, the Law of the Republic of Azerbaijan “On Ecologically Clean Agriculture” was adopted on June 13, 2008, and subsequent amendments and additions were made to the legislation. In addition, it is important to organize training and educational courses on ecologically clean agricultural production, specialization of farmers, development of educational programs, establishment of special vocational training centers for specialists, and continuous research in this area. The expansion of activities for the publication of brochures and other printed materials related to the technology of raising awareness among farmers and the cultivation of ecologically clean agricultural products can make a positive contribution to the development of the industry.

In developed countries, the issues of life and health of citizens are becoming more relevant, and for this purpose, the legislation imposes strict regulatory provisions and requirements. Therefore, the export potential of agricultural products to developed countries is

declining. In this regard, the regulation and promotion of ecologically clean agriculture in the country is important, taking into account the relevant approaches, practices and rules of these countries.

The implementation of support measures in several areas as establishment of various incentive mechanisms for the development of organic agriculture, government reimbursement of the cost of providing farmers with a certificate for production, the cost of product analysis and consulting services to farmers and others, can ultimately create major development trends in organic agriculture in the country.

As in other areas of the non-oil sector, Azerbaijan is not yet in a stable position to increase the export of organic and non-traditional agricultural products. Taking a number of progressive strategic measures in this area, the implementation of state programs and the fact that many are currently in the process of implementation allow us to conclude that in the near future in Azerbaijan may intensify measures to form more efficient, productive ways to use the export potential of the non-oil sector. Increasing productivity in the agricultural sector can increase the efficiency of using the export potential.

Increasing export opportunities for non-traditional products is one of the main priorities of state policy in the agricultural sector in Azerbaijan in recent years. Therefore, especially in the last 5 years, the country's exports are encouraged to export non-traditional crop and livestock products, which have been exported in recent years. As a result of comprehensive measures taken to increase exports, exports of live animals and animal products in 2018 amounted to 12.1 million and in 2019 to 23.2 million US dollars, and in 2020 to 19.4 million US dollars.

In accordance with the policy set by the President, it can be predicted that in the coming period there will be innovations in the structure of Azerbaijan's agricultural exports. Our calculations on the position of barley and onion products in agricultural exports show that the demand for barley in the country will increase by 2030 due to population growth, livestock development and other factors. According to the FAO, the average yield of barley in the world in 2018 was 29.5 q/ha. In the period under review, this figure was 27.9 q/ha in

Azerbaijan. Germany had the highest barley yield (69.3 q/ha). Analysis shows that Azerbaijan also has the potential to increase barley productivity. In particular, the productivity of barley in the newly formed large farms is 35-45 q/ha.

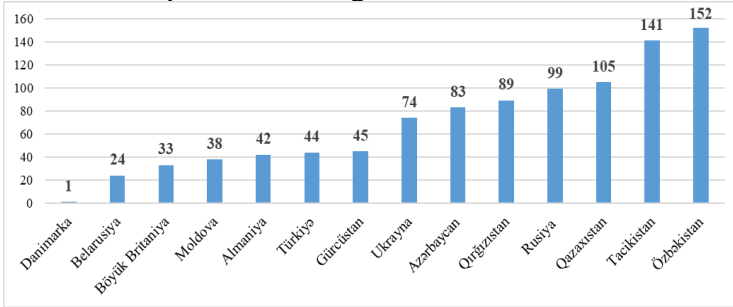
Azerbaijan's onion exports account for 0.2 percent of global onion exports in value terms. In 2018, the average price of 1 ton of onions exported from Azerbaijan was 208.7 US dollars, and in 2019 - 302 US dollars. This shows that the average price of onions exported by Azerbaijan is lower than the average price of onions imported in the world. The scope of Azerbaijan's onion exports is expanding, and in the coming years there are opportunities to increase its exports, raise quality standards and thus gain access to European markets. The increase in organic onion exports will also increase farmers' incomes. In parallel with the implementation of measures to increase exports, work should be started to find export markets, and the export of these products should be directed to “niche markets”. It is possible to export products from Azerbaijan to “niche markets”.

Our research on improving the mechanisms for promoting the production and export of export-oriented agricultural products shows that the mechanism of export promotion applied in our country in 2016-2020 is to be improved at the next stage. For information, the process of export promotion in the country was completed in 2020, and the export promotion policy for the next period has not been updated. In this regard, there is a serious need to establish a transparent mechanism and expand the scope of business entities for the effective continuation of this policy in the future.

The establishment of the Export and Investment Promotion Agency of the Republic of Azerbaijan on the basis of AZPROMO by the Decree dated December 28, 2018 is also an important step in terms of promoting exports and investments.

Despite the state support for obtaining an international certificate, there are still problems in this area. In particular, lack of knowledge of small and medium entrepreneurs on export procedures, lack of sufficient funds to obtain an international certificate, large number of required documents, duplication and delays in documentation process and other issues result in a limited number of

entrepreneurs engaged in exports. These problems give the impression that the export process is inaccessible to small and medium-sized businesses. As noted, in the Doing Business 2020 report, Azerbaijan ranked 83rd in trade-related procedures with 79 points, which is not a good indicator compared to the region.



Graph 3. Rating of countries on the indicator “trading across borders” according to “Doing Business 2020”¹³

As a result of our research, the most important factors are the harmonization of customs procedures with international standards, accelerating the passage of individuals at border crossings, application of new electronic systems in the customs system, effective coordination between agencies, improvement of procedures and the implementation of the single-window concept.

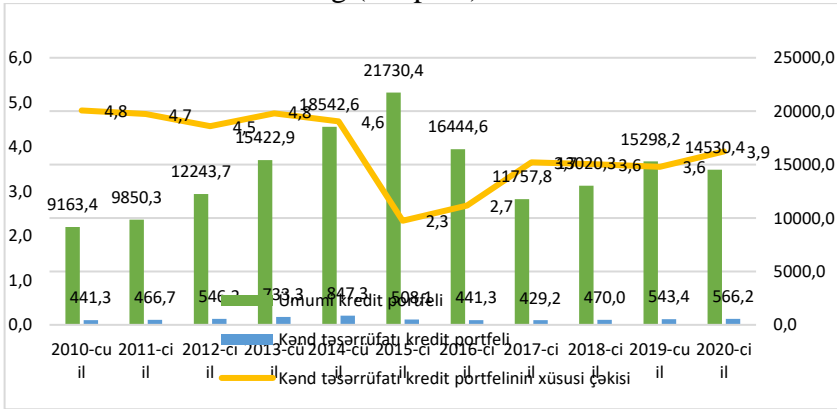
Our research to expand the range of innovative financial services in the agricultural sector and increase its role in strengthening exports has yielded scientifically substantiated results. According to the results of 2020, the total loan portfolio of banks amounted to 14.5 billion manats, and the portfolio of agriculture amounted to 566 million manats. The increase in the loan portfolio of agriculture by 125 million manats compared to 441 million manats in 2010 is mainly due to the increase in the total loan portfolio.¹⁴

The dynamics of loan portfolios over the last 10 years also allows us to conduct a comparative analysis of the impact of the

¹³ https://www.doingbusiness.org/en/date/exploreconomies/azerbaijan#DB_tab

¹⁴ <https://www.cbar.az/page-42/monetary-indicators#page-2>

processes in the financial system of the agricultural sector and the share of the sector in lending (Graph 4).



total loan portfolio

agricultural loan portfolio

specific weight of agricultural loan portfolio

Graph 4. Development dynamics of agricultural loan portfolio (in million manats)¹⁵

There is very little information available on open source trade finance in Azerbaijan. In official statistics trade financing is reported with the service sector, which prevents the calculation of how much financial resources are spent on the trade sector alone.

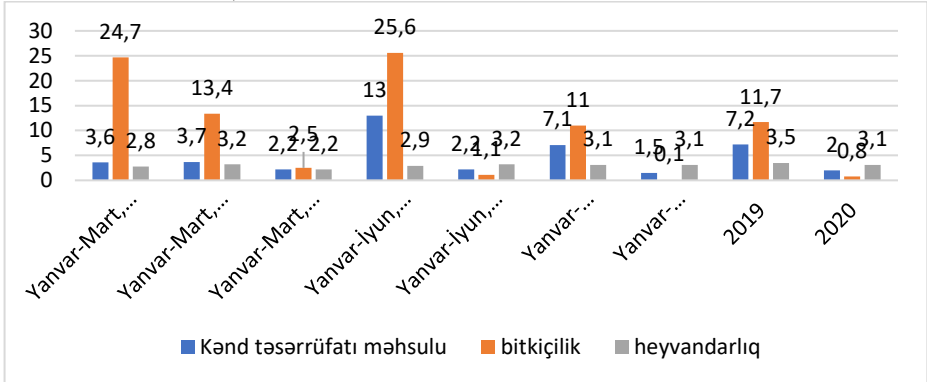
There is very little information available on open source trade finance in Azerbaijan. According to official statistics, trade financing is reported jointly with the service sector. This prevents us from calculating how much financial resources are spent on the trade sector alone. In this regard, in order to provide separate access to information on trade finance, it is proposed to improve the classification of statistical indicators in the banking system and the separation of statistics on the trade and services sector.

Considering all that, the implementation of new tools and types of lending to trade finance through the application of innovative approaches in the banking sector, the implementation of appropriate work within the legislation, awareness-raising activities, the

¹⁵ Source: Developed according to the data from SSC

development of preferential terms would further improve the financing opportunities of the trade sector.

In 2020, production in the agricultural sector at current prices amounted to 4.9 billion US dollars, which is more than in 2019 (4.6 billion US dollars).



agricultural product. plant growing. livestock

Graph 5. Growth in the agricultural sector and main segments¹⁶

According to official statistics, growth in the agricultural sector in 2020 was 2 percent, which is 3.5 times less than the previous year (7.2 percent). The downward trend in the livestock sector was less than in the crop sector. The growth rates in livestock and crop production were 3.1% and 0.8%, respectively, in 2020. Compared to the previous year, these figures are lower than in 2019. In 2019, the growth in livestock and crop production was 3.5% and 11.7%, respectively.

Our research shows that the Azerbaijani economy has been significantly affected by the pandemic. In addition, the reason for the decline in exports of some products (especially tomatoes) towards the end of 2020 was not a pandemic, but rather geo-political issues. During the pandemic, the agricultural sector was identified as a priority area and government support measures were implemented. In 2020, production in the agricultural sector at current prices amounted to 4.9 billion US dollars, which is more than in 2019 (4.6 billion US

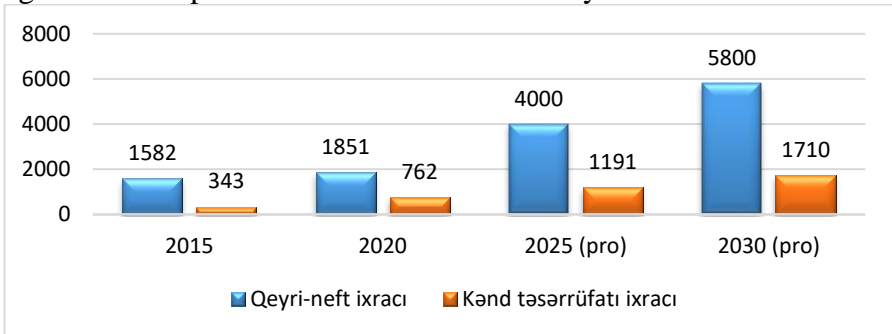
¹⁶ Source. The State Statistical Committee of the Republic of Azerbaijan

dollars). In 2020, the production of all agricultural products increased, except for grain (with corn), sunflower and cocoons.¹⁷

Forecasts for the postpandemic period were also developed during the study. Based on the financial program model, our calculations based on the baseline scenario show that the growth rates of the agricultural and trade sectors will stabilize at around 3 percent.

Forecasts for the postpandemic period were also developed during the study. Based on the financial program model, our calculations based on the baseline scenario show that the growth rates of the agricultural and trade sectors will stabilize at around 3 percent. Based on the growth rates calculated under the financial model program, by 2030, GDP is expected to reach 119 billion manats. That's 1.8 times more than in 2020. The share of non-oil and gas GDP in total GDP is projected to increase by 6% to 70% or 23.4 billion manat by 2030. Sectoral forecasts also show that by 2030, agriculture will account for 11 percent of non-oil GDP. In general, the agricultural sector is expected to grow 1.8 times. As a result of our research, in 2030, the commercial and agricultural sectors will have the highest share (29 percent) in non-oil and gas GDP.

According to our calculations, there is a potential to increase agricultural exports to 1.2 billion US dollar by 2025.



Graph 6. Forecasts for agricultural exports, in millions of US dollars¹⁸

¹⁷SSCRA, 2020b. The State Statistical Committee of the Republic of Azerbaijan. 2020. <https://www.stat.gov.az/source/agriculture/?lang=en>

¹⁸ Source: Calculated by the author

By 2030, agriculture can export worth 1.7 billion dollars. As a result of the implementation of the “Azerbaijan 2030: National Priorities for Socio-Economic Development” and the “Socio-Economic Development Strategy for 2022-2026”, it is possible to fully achieve the goals set for exports.

Some of the main results of the research, new scientific approaches, suggestions and recommendations

As a result of the research, we can say that the forecasts for the future of Azerbaijan's agricultural exports are quite positive, but more sustainable economic results can be achieved with the implementation of the proposed reforms. In order to achieve the goals set in agriculture, we propose to take measures to increase productivity, improve the regulatory framework, improve infrastructure, apply innovative technologies, promote the establishment of processing enterprises, increase the competitiveness and export of agricultural products, support the import substitution process and strengthen scientific support and human resources. Moreover, we consider it necessary to develop agriculture on an intensive basis and apply specialization in order to achieve the goals set out in the relevant state programs and documents. It is advisable to implement such specialization in a pilot form on the example of fruit growing in the country. In terms of increasing the country's non-oil exports in the post-pandemic period, it is important to adopt a long-term non-oil export strategy of Azerbaijan and a special approach to increasing exports of agricultural products. In this regard, a number of issues should be highlighted:

1. In today's world, millions of people use e-commerce through online platforms without any intermediaries. On a larger scale, technology-based platforms are already shaping the demand economy. The internet has created new opportunities in this field and there has been a great development in e-commerce. In this context, Azerbaijan's long-term strategy to increase non-oil exports should also meet the current challenges. Our analysis has shown that one of the main reasons for the recent increase in non-oil exports is the increase in agricultural production. The increase in exports of a number of

agricultural products in recent years can be considered an obvious proof for this.

2. Although a number of measures have been taken in different years to develop the non-oil sector and exports in a number of State Programs, Development Concepts and Strategic Roadmaps, the targets have not yet been fully achieved. In this respect, in order to achieve high development, Azerbaijan needs to establish agrarian export strategies with clear strategic goals and indicators, focused on specific product groups and geographical markets.

3. The agrarian sector is one of the key areas in Azerbaijan's global value chains. According to the analysis, Azerbaijan's agricultural exports are still very low. As a result of the analysis, the development of the agricultural sector in the country faces a number of challenges. These include the lack of modern means of production, lack of educated owners, insufficient investment in this area, and so on. Therefore, we cannot fully utilize our potential in the agricultural sector. However, our research proves that a number of Azerbaijani agricultural products have a comparative advantage in the Russian and European markets.

4. Despite the annual average growth of 16.8 percent in non-oil exports in 2016-2020, the increase in non-oil imports was 12.5 percent. In this period, the difference between non-oil imports and exports increased from 5.5 billion dollars to 6.3 billion dollars. This shows that non-oil imports increase compared to non-oil exports and imports have a larger share in turnover. Although the exchange rate stability and macroeconomic balance have been maintained in the country for the last 5 years, other factors are needed for sustainable development and economic growth. Thus, sustainable reforms, the application of innovations and technologies in the agricultural sector, increasing the use of local resources in industrialization and the development of agriculture through value chains and cluster approaches are important for sustainable economic development.

5. Although various reforms have been carried out in recent years to increase the non-oil export potential, the overall export dynamics shows that Azerbaijan's trade sector is still dependent on the oil and gas sector. These negative trends have not changed much in

recent years. However, decrease in oil prices has created new opportunities for the development of the non-oil sector and these opportunities need to be exploited. According to the analysis, the level of dependence of Azerbaijan's non-oil exports on only three countries is 68%, which is a very weak indicator in terms of diversification of export scope. In addition, most products exported from Azerbaijan are included in the classification groups of low and medium-low technological level.

6. The issue of reducing the dependence of the domestic food market on imports in Azerbaijan remains relevant. At present, in addition to economic and energy security, food security is also important in our country. According to the analysis of the Global Food Security Index, Azerbaijan is the weakest country in Europe in terms of food security and one of the 10 strongest countries in Asia. In Azerbaijan, food quality and safety and the country's preparedness for climate change are low and measures should be taken in this direction. In this context, there is a need to increase the quantity and quality of national production through the use of innovative approaches, such as the development of food safety systems and the establishment of early warning systems against climate events.

7. The analysis of statistical indicators shows that the country has made a significant improvement in a number of products in recent years, productivity and production indicators have improved, and accordingly, exports from the country have increased. However, production and export figures for main agricultural products did not meet their potential and targets set in state programs. In some cases, agricultural production is lower than in 2000. Our research has shown that the production of cocoons and honey, which can increase the country's non-oil exports and contribute to the development of the national economy, has increased in recent years, but has not yet reached high levels. This necessitates the implementation of larger-scale measures in this direction.

8. The high share of the Russian market for exported products threatens the sustainable export of these products. Although Azerbaijan is an important exporter of some of these products to the Russian market, there is a need to take measures to expand existing

export channels, as well as increased production and exports. If we look at the dynamics of imports with Russia and Turkey, major trading partners, in 2011-2020, we can see that the import turnover with the two neighboring countries is quite high compared to total imports.

9. According to the calculations based on the comparative advantage index, the products with high export potential in the non-oil sector of Azerbaijan remain predominantly as agricultural products. Furthermore, economic analysis shows that Azerbaijan's non-oil exports are not sufficiently diversified. The fact that the main market for products with high export potential is the Russian market makes it necessary to develop a diversification policy. In general, there is a serious need to develop and implement new trade strategies based on general descriptive statistics on major export countries and Azerbaijan's trade relations around the world.

10. In recent years, very important measures have been taken to develop the processing industry. However, most of the country's agricultural products are still exported as primary products, and in some cases only primary processing procedures take place. This hinders the sustainable development of the agricultural sector and prevents the entry of large amounts of foreign currency into the country. On this basis, it is recommended to further expand the value chains of agricultural products, to increase the number of processing enterprises, and to create favorable conditions for the operation of new enterprises at other stages of the value chain in areas with good experience in primary processing procedures and infrastructure. In this case, there will be new opportunities for the country to enter and specialize in the world market of agricultural products with more advanced products.

11. Currently, the measures taken to promote the production of environmentally friendly or organic products in the country are insufficient, and most of the measures taken in the agricultural sector promote non-environmentally friendly production. Given these, it is time to consider the issue of providing subsidies to organic producers in Azerbaijan. We also propose to strengthen the supply of seeds and planting materials for the production of organic products, and for this

purpose to use the opportunities of the relevant agencies under the Ministry of Agriculture.

12. One of the important factors for the increase in non-oil exports is the development of the agricultural sector along value chains and in clusters. We know that any shortfall in the value chain leads to a decline in exports, sales and productivity and production of agricultural and agrarian products. The issue of exporting priority crop products to local and foreign markets as a product of higher value should be addressed through processing enterprises located close to major trade routes and transport hubs. Furthermore, it is proposed to introduce various mechanisms to promote the active participation of agricultural producers in the country in high-value areas along the value chain. For instance, due to the lack of a wool market, appropriate measures can be taken to prevent the complete loss or disposal of wool.

13. The implementation of the cluster approach can ensure the complex development of such value chains and create new opportunities for the development of the agricultural sector in the country. Certainly, establishing clusters requires considerable financial, time and specialization. However, there is a high chance of forming important clusters such as dairy and winemaking, especially in liberated lands. For instance, the historical existence of winemaking in the Aghdam region necessitates the establishment of a wine cluster here. In the surrounding areas, small but complex compounds can be created, such as tubs, labels, caps/stoppers and bottles, which are part of a winemaking cluster. One of the advantages of the wine cluster is that it can be associated with tourism, food and restaurant clusters. Large-scale research shows that despite the need for adequate financial resources, the implementation of cluster-type approaches and ensuring the development of agriculture along value chains can ultimately have a significant impact on the overall economic development of countries and increase their export potential.

14. Analysis of the socio-economic profile of the liberated regions shows that these regions have great potential for the development of the non-oil sector. Considering the traditional economic activities of these regions, the development of the

agricultural sector could have a significant impact on the country's future growth in non-oil exports. However, long-term demining activities of the liberated lands indicates that the use of the potential of these lands for agricultural purposes and to increase export potential will also require long-term activities and resources. During the development of agriculture in these areas, it is proposed to base it on the most advanced farming methods and use modern innovative tools. During the development of agrarian sectors, the "smart village" and "smart city" approaches in these regions should be taken into account, and agricultural production should be based on the latest technologies. In order to increase the potential of non-oil exports, it is possible to establish small family farms in livestock farming and large grain, fruit and vegetable farms in agriculture in order to increase the non-oil export potential. Establishing wool, leather, canning and meat processing enterprises in these regions, based on the potential for environmentally friendly raw materials, could also significantly expand agricultural export opportunities. As a result of the research, based on the existing climatic opportunities, we propose to establish intensive beekeeping farms in the regions and organize the production and export of natural honey with high export potential.

15. In order to base Azerbaijan's export strategy for agricultural products on the basis of both price and quality competition, financing opportunities should be increased. Therefore, the possibility of applying innovative financing and credit instruments should be considered in order to develop the infrastructure in the agricultural sector in all directions. For instance, innovative lending approaches such as providing unsecured loans to individuals with contracts with agricultural suppliers and providing unsecured loans to groups of potential co-borrowers combined on one or more criteria could be exemplified.

16. In 2020, the export promotion process in the country was completed and the export incentive policy for the next period was not updated. However, extending the export incentive period and further expanding the list of non-petroleum products under the promotion may encourage the participation of more goods in the country's exports. However, statistical analysis shows that export-promoting enterprises

only cover a small number of non-oil export entrepreneurs, and in this context, it would be beneficial to expand the scope of export-promoted business enterprises. If the relevant policy is continued in the future, there will be a serious need to improve the payment rules for export incentives (simplification of procedures and the problem of customs value).

17. As a result of the new agrarian subsidy policy, we can predict an increase in production and exports in the agricultural sector. The new subsidy mechanism is one of the most advanced in the agricultural sector in recent years. This will prevent extensive development in the agricultural sector and will have a positive impact on intensive development. Moreover, it is necessary to identify new markets for new agricultural products and intensify efforts to deepen their processing. It is also recommended that regular evaluations be made of the impact of the new subsidy mechanism on the effectiveness of state support policy, which may increase the effectiveness of state intervention in the agricultural sector.

18. According to our research, prioritizing the production and export of the crop sector is more important for the development of the national economy. Crop products have a high share in non-oil exports and are more important in the formation of sources of income for the national economy and the inflow of foreign currency into the country, thus maintaining macroeconomic stability. Facts show that the number of enterprises receiving export promotion is not very large due to the limited capacity of the state budget. Therefore, during the continuation of this program in the future, it is recommended to consider specialization issues and to prefer crops such as apples, dates, hazelnuts, tomatoes, etc., for which Azerbaijan has more competitive production and export opportunities in the world market.

19. The Export and Investment Promotion Agency of the Republic of Azerbaijan was established on December 28, 2018 in order to further improve export and investment incentive management. In addition, after the state registration of this agency, it is planned to liquidate AZPROMO and transfer its material and technical base to the balance of the Agency. However, this process was not implemented until July 2021. We suggest to consider the

establishment of a center to support agricultural exports after the newly established agency becomes fully operational. Moreover, it is recommended to prioritize the development of more innovative platforms such as Azexport.az to promote non-oil exports and to increase the scope and impact of other measures. Thus, the role of e-commerce platforms such as Azexport.az is higher in terms of increasing the country's exports of non-oil, especially agricultural products. The development of a transport and logistics network, including e-commerce, can have a significant impact on increasing the country's agricultural exports at least several times.

20. According to our research, the issue of establishing intensive and super-intensive apple orchards and establishing processing enterprises by attracting local and foreign investments will remain relevant in the long run. In this context, it is recommended to establish new fruit processing enterprises based on modern technologies with the attraction of foreign investments. Research shows that the country has made significant progress in the development and export of fruit. In order to achieve higher results in this direction and to ensure the full realization of the existing potential, it is recommended to adopt a special State Program for the development of orchards. With the development and implementation of such a program, meeting the needs of fruit processing enterprises in the country for raw materials through domestic production can contribute to the development of fruit growing.

21. Our calculations based on the Net Export Index for 4 agricultural products, which are among the top 5 non-oil sector products with the highest share in exports, show that these agricultural - products maintain a comparative advantage in exports. Calculations on based on the localization coefficient show that the export markets of Moldova, Russia, Belarus, Ukraine and Kazakhstan for Azerbaijani tomatoes, Russia and Georgia for hazelnut kernels, Turkmenistan and Belarus for dates have a potential comparative advantage, but as for cotton, it is necessary to enter other markets outside the regional markets.

22. According to our calculations under the financial model program, the country's GDP will reach 119 billion manats by 2030.

The share of non-oil and gas GDP in total GDP is expected to increase by 6 percent per year to 20 percent, or 83.3 billion manats, by 2030. Thus, our analytical forecasts show that non-oil and gas exports will fall to 2.8 billion dollars by 2030, and oil and gas exports to 14.1 billion dollars by 2030. In this case, with the decline in the oil and gas sector, increasing agricultural and non-oil gas exports to increase GDP becomes even more urgent. In this regard, the implementation of the National Priorities Document and other important measures to be implemented until 2030 can significantly increase and improve existing development forecasts. Furthermore, the Shusha Declaration on Allied Relations between the Republic of Azerbaijan and the Republic of Turkey, signed in Shusha on June 15, 2021, envisages measures to establish mechanisms for regulating the free movement of Azerbaijani and Turkish goods. It will play an exceptional role in increasing the export potential of agricultural products and providing access to Turkish and European markets. Moreover, the opening of the corridor (Zangazur corridor) between Azerbaijan and Turkey and the western regions of the Republic of Azerbaijan and the Nakhchivan Autonomous Republic of the Republic of Azerbaijan will contribute to improving agricultural export opportunities.

In terms of increasing the country's non-oil exports in the post-pandemic period, it is important for Azerbaijan to adopt a long-term non-oil export strategy and have a special approach to increase exports of agricultural products.

The main content of the dissertation is reflected in the following 26 scientific publications:

1. Проблемы регулирования использования экспортного потенциала Азербайджана в нефтяном секторе// Научно-практический журнал, «Экономика и предпринимательство». Москва. 2018, № 04 Volume 12. с. 534-538.

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