




RS Global
Journals

Scholarly Publisher
RS Global Sp. z O.O.
ISNI: 0000 0004 8495 2390

Dolna 17, Warsaw, Poland 00-773
Tel: +48 226 0 227 03
Email: editorial_office@rsglobal.pl

JOURNAL	International Journal of Innovative Technologies in Economy
p-ISSN	2412-8368
e-ISSN	2414-1305
PUBLISHER	RS Global Sp. z O.O., Poland
ARTICLE TITLE	PROBLEMS OF FOOD SECURITY IN THE CONDITIONS OF THE OPEN ECONOMY OF MODERN GEORGIA
AUTHOR(S)	Davit Katamadze.
ARTICLE INFO	Davit Katamadze. (2022) Problems of Food Security in the Conditions of the Open Economy of Modern Georgia. <i>International Journal of Innovative Technologies in Economy</i> . 4(40). doi: 10.31435/rsglobal_ijite/30122022/7895
DOI	https://doi.org/10.31435/rsglobal_ijite/30122022/7895
RECEIVED	28 October 2022
ACCEPTED	27 December 2022
PUBLISHED	29 December 2022
LICENSE	 This work is licensed under a Creative Commons Attribution 4.0 International License .

© The author(s) 2022. This publication is an open access article.

PROBLEMS OF FOOD SECURITY IN THE CONDITIONS OF THE OPEN ECONOMY OF MODERN GEORGIA

Davit Katamadze

Doctor of Economics, Associate Professor, Batumi Shota Rustaveli State University, Georgia.

ORCID ID: 0000-0003-2992-9326

DOI: https://doi.org/10.31435/rsglobal_ijite/30122022/7895

ARTICLE INFO

Received 28 October 2022

Accepted 27 December 2022

Published 29 December 2022

KEYWORDS

Food Security, Food Self-Sufficiency Rate, Food Availability Index, Living Wage, Sustainable Development Goals.

ABSTRACT

The article discusses the problems of food security in the open economy of modern Georgia against the background of the ongoing hostilities between Russia and Ukraine. After the spread of the COVID-19 pandemic, the attention of almost all countries of the world, including Georgia, was focused on self-sufficiency of the demand of their population with local agricultural and food products. In such conditions, Georgia has a chance to expand domestic production of agricultural and food products. In order to increase the competitiveness of the food and nutrition products produced in Georgia, it is necessary to improve the connections between the separate links of their production, to synchronize the production processes. In order to increase the level of food self-sufficiency of Georgia, it is necessary to protect the production of import-substituting, domestic, agrarian products with non-tariff barriers, and to properly manage their production and logistics. Significant and rapid changes in the global supply chain of food and nutrition products provoked by the Covid-19 pandemic have become an opportunity to increase the level of food self-sufficiency of Georgia, which needs to be properly used.

Citation: Davit Katamadze. (2022) Problems of Food Security in the Conditions of the Open Economy of Modern Georgia. *International Journal of Innovative Technologies in Economy*. 4(40). doi: 10.31435/rsglobal_ijite/30122022/7895

Copyright: © 2022 **Davit Katamadze**. This is an open-access article distributed under the terms of the **Creative Commons Attribution License (CC BY)**. The use, distribution or reproduction in other forums is permitted, provided the original author(s) or licensor are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

Introduction.

In the post-pandemic period, the issue of increasing Georgia's food security has been put on the agenda in a new way. Cheap but low-quality foreign food and food products are imported into Georgia from abroad. For the population of Georgia, this type of goods is important for their livelihood, because the demand for it is inelastic. In such conditions, the study of the production potential of Georgian food and food products is very relevant in the field of food self-sufficiency of its population. In particular, in recent years, due to hostilities between Russia and Ukraine, attention has been paid to raising the level of food self-sufficiency of Georgia. Georgia has a real opportunity to meet the demand of its population for local food products. It is important that the Government of Georgia adequately respond to the challenges in the field of food and nutritional products production, to promote the correct selection of non-tariff barriers to protect the industries producing these products from imports, to use them in a timely manner and with adequate efforts, and to increase the level of food security in Georgia.

The aim of the study is to reveal the problems in the field of food security in Georgia, to find ways to solve them in the new reality. Statistical methods of material collection, grouping and analysis were used to achieve this goal.

The hypothesis of the paper is that if the producers of Georgian food and nutrition products introduce European standards in the field of their production, then both local and foreign consumers

will prefer to buy Georgian products, and Georgia will not have difficulty in establishing its food and nutrition products in the European market.

The methodological basis of the work is represented by the works of Georgian and foreign scientists in the field of organization and management of the production of food and nutritional products, whose research is, conducted on the basis of data collection and analysis methods.

Many works in the field of food security of Georgia have been developed by Georgian and foreign scientists, but their research is mainly focused on the possibilities of restoring the previous scale of production of food and nutrition products in Georgia.

The flaw in their research is that they believe that the decline in the production of food and nutrition products by Georgia as a small country is due to the chaotic, unsystematized development of many interrelated components in the agro-industrial industry. They argued that at the modern stage, having only favourable natural-climatic conditions for the production of food and food products is not enough to ensure food security and raising the level of food self-sufficiency.

The potential usefulness of the proposed research lies in the fact that the possibility of Georgia's food and nutrition products production is studied in the new reality of functioning of an open economy, when the production of local agricultural products is in perfect competition with imports, in the background of the ongoing hostilities between Russia and Ukraine in the Black Sea region.

A number of Georgian and foreign scientists' works (Abuselidze et al., 2022; Chavleishvili et al., 2013; Colin, 2018; Davitashvili, 2018; Demetrashvili, 2012; Dongju, 2022; Kacia, 2020; Kharaishvili, 2017; Lekashvili, 2012; Meskhia, 2013; Mohylevska et al., 2021; Ohanisian, et al., 2022; Slobodanyk & Abuselidze, 2019; Slobodanyk et al., 2021; Tsereteli, 2020; Jijavadze, 2022) are devoted to the study of food safety issues. Among them, the work of Koghuashvili and Chikhladze entitled "Food independence is a state necessity" is worth noting. According to the opinion of the authors, it is necessary to activate all the reserves for the increase of grain production inside the country. In addition, the production of grain as a food of strategic importance should be considered a priority, both in the medium and long term (Koghuashvili & Chikhladze, 2019).

In Talikadze's article: "Impact of local production on ensuring food independence: trends and modern challenges", the coefficients of self-sufficiency of the main agro-food products in 2007-2017 are studied, and its components are also evaluated: local production, import, export. In addition, the trends of local production are analysed, the correlation between the production of agro-food products and self-sufficiency coefficients is revealed" (Talikadze, 2022).

In his work "Food safety policy and regulation in Georgia" S. Asatiani notes that "restrictions on crossing the country's borders should not affect the provision of food to the local population. Therefore, food independence becomes vital in such situations. In addition, ensuring food security is one of the goals of sustainable development" (Asatiani, 2010).

T. Kavtaradze in his work: "Problems of food security in Georgia" notes that "Georgia has long fallen behind the limit of food security. Production of basic agricultural products per capita is decreasing year by year, while imports are increasing, which is an indication that the food security of the country is disturbed (Kavtaradze, 2022).

The population of the earth is characterized by an increasing rate of growth, which implies a growing demand for food and food security (Giovannucci et al., 2012).

According to a commonly accepted definition of food security, "food and nutrition security" exists when each person at all times has physical, social and economic access to sufficient quantities of safe and quality food to meet their food requirements and choices under conditions of adequate sanitation and health care. To lead a healthy and active lifestyle" (World Development Report, 2008).

The Food and Agriculture Organization of the United Nations (hereinafter FAO) identified four main "elements" of food security: availability, consumption and stability. Food availability refers to the physical presence of food products, and availability refers to the physical and economic availability of food. Consumption refers to the consumption of available food by citizens so that their diet is healthy and has nutritional value. Stability is the threat of loss of food availability or the degree to which prices change over a short period of time (Jewell, 2017).

Thus, as from the analysis of the studies carried out so far by Georgian and foreign scientists on the food security of Georgia, it can be seen that the existing resources in the field of agricultural production of Georgia allow to prove that Georgia has sufficient potential to provide food and nutritional products to its own population.

The issues of food self-sufficiency of the population of Georgia are reviewed in detail in the works on food security of Georgia. In their studies, the development potential of the rural duality of Georgia and the ways of its correct use has been studied. The problems of the development of the agro-industrial sector of Georgia and the ways to solve them are studied in detail in the works of Georgian scientists. While studying Georgia's food security, Georgian and foreign scientists came to the conclusion that Georgia needs to raise the level of food self-sufficiency. Our initial vision in the paper, unlike other scholars, is that it discusses the prospects of increasing food security in Georgia in the new reality of the modern post-covid period, against the background of hostilities between Russia and Ukraine.

Part of the previously unsolved problem in the field of food security formation of Georgia, to which the article is devoted, is the discovery of new opportunities created in the field of agriculture in the post-covid period against the background of hostilities between Russia and Ukraine and their use in order to increase the food self-sufficiency of the population of Georgia.

Methodology.

The methodological basis of the paper is the works of Georgian and foreign scientists in the field of food security data collection and analysis methods. The work is built on the appropriate basis of the research of theoretical concepts, ideas in the field of food safety. The work is based on research-intellectual works prepared by Georgian and foreign researchers in the field of food self-sufficiency. The statistical (data collection, grouping and analysis) methods used in the research of the paper correspond to the direction of research in the field of food safety.

Results.

Challenges of food security in the field of food self-sufficiency of Georgia.

One of the important socio-economic problems of managing the open economy of Georgia is raising the level of food security. The issue of raising the level of self-sufficiency with food and nutrition products is a subject of constant concern of the Georgian government and one of the most important socio-economic tasks, therefore, this issue is relevant both at the level of internal and external economic policy of Georgia. The current epidemiological situation confirmed the essentiality of this issue.

The United Nations predicts a sharp increase in the world's population from today's 7.7 billion to 10 billion by 2050. The world population growth rate is about 1.1% per year (about 83 million people per year). In addition, the current political processes in the world, together with global climate changes and the pandemic, create additional challenges in terms of providing the population with adequate amounts of food. And for a country of such scale as Georgia, it is important to utilize the resource potential of the existing agro-food product and use it effectively.

In addition to the problems discussed above, it is important to focus on raising the level of food self-sufficiency of the population of Georgia. Since food independence can be a determining factor of food security. In addition, food independence is often the main task of agricultural policy (Jeowell Research, 2017). In other words, the main criterion of food security is providing the population with safe food products, and on the other hand, it is an indicator of food self-sufficiency, which means meeting the food needs of the country's population at the expense of using local resources with maximum efficiency.

Thus, the following main problems were identified as a result of the research:

- Self-sufficiency rates for major agro-food products, including wheat, corn, vegetables, milk and dairy products, meat, are below 90%, which is a major challenge for sustainable food security.
- Food prices are characterized by an increasing trend, because we mainly depend on imports and the exchange rate of the GEL is depreciated against the dollar;
- The change in average monthly household incomes is less than the change in food prices.

Prospects for increasing food security in Georgia

Georgia has a real perspective of improving food security, through which it will be possible to raise the level of food self-sufficiency of the population. The coefficient of food self-sufficiency shows the level at which the country provides the requirements for a given product with its own resources; And how much depends on imports. Based on this, we can make the following assumption, other variables remaining unchanged, the increase in local production has a positive effect on the self-

sufficiency ratio. If we consider imports, then on the contrary, in case of its growth, the coefficient of self-sufficiency decreases, other variables remaining unchanged. As for export, as it increases, other variables being constant, the value of self-sufficiency coefficient also increases.

According to today's data, the main food products are defined, which are of strategic importance for the country and which are necessary for the human body. These are: wheat, corn, potatoes, vegetables, grapes, meat (including: cattle, pork, sheep and goat, poultry), milk and milk products and eggs. Thus, in this article, we will discuss the issue of food security based on the above data on agro-food products.

Unfortunately, today, the level of satisfaction with necessary agro-food products in Georgia is low. In 2020, low self-sufficiency ratios (see Figure 1) were observed for the following products: wheat - 15% and meat - 49%.

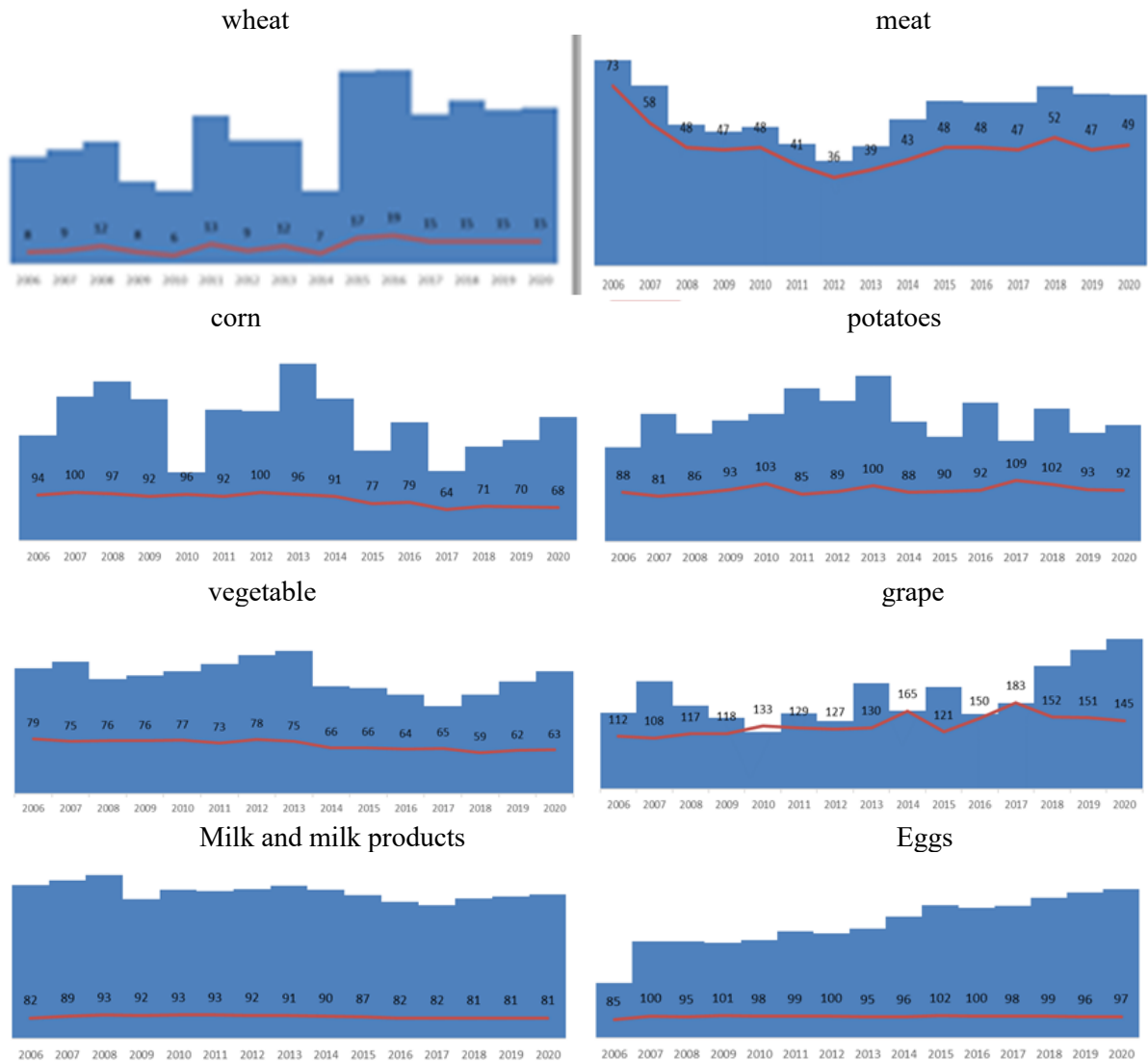


Fig. 1. Local production of basic agro-food products and self-sufficiency coefficients in the period 2006-2020

■ Local production — Self-sufficiency ratio, %

Source: <http://www.geostat.ge/food balances>.

Over the years, the import of agro-food products in Georgia has been stable, by value 3.5 times, and by quantity 2.6 times and more than export, which is mainly due to the low volume of production of these products and the weak competitiveness of the relevant sector compared to foreign producers.

The analysis of the data from 2006-2020 showed us that the self-sufficiency ratio of some products was improving during the mentioned period of time, while others were getting worse. For

example, according to the self-sufficiency ratio, the following agro-food products are characterized by an increasing trend: potatoes, grapes, eggs and wheat. And the following agro-food products are characterized by a decreasing trend: corn, vegetables, meat, milk and dairy products. According to local production, corn, vegetables, milk and dairy products are characterized by a distinctly decreasing trend in the same period; and with an increasing trend - eggs and wheat (nevertheless, a large part of it is imported from abroad). In modern conditions, no country can independently and in isolation from other states solve the problem of food security only through national production, therefore import is one of the important components of food supply of any country. However, if a country has high self-sufficiency ratios, it may consider exporting, which ultimately improves the country's trade balance.

Figure 1 shows the relationship between self-sufficiency coefficients of the population of Georgia with local food and food products and local production. As can be seen from the diagram, in 2006, the wheat self-sufficiency ratio was 8%, and in 2020, it has increased to 15%. Although wheat has the lowest indicators of the self-sufficiency ratio, in general, it is characterized by an increasing trend. In the mentioned period, the lowest rate was recorded in 2010 (6%), which was caused by the decrease of local production by 11% and the increase of export by 125%. If we compare the years 2017-2020, we will see that the wheat self-sufficiency ratio has not changed in this time interval. In 2020, compared to 2006, local production increased by about 46%, and compared to 2019 – by 1%. In 2020, compared to 2006, imports decreased by 30%, and compared to 2019 – by 4%. It is noteworthy that in 2020 wheat export is not fixed. If we take 2019 as a comparison, then, compared to 2006, exports have decreased by 89%, and compared to 2018, by 83%. In the given period, the average absolute increase of local production was about 2.6 thousand tons per year.

The meat self-sufficiency ratio was 73% in 2006, and it decreased to 49% in 2020. Its self-sufficiency ratio in 2020 has increased by 2% compared to the previous year. In 2020, compared to 2006, domestic production has decreased by about 17%, and compared to 2019, the difference is close to zero. In 2020, compared to 2006, imports increased by 169%, and compared to 2019, they decreased by 3%. In 2020, compared to 2006, exports have increased by more than 1000 percent, and compared to 2019 – by about 30%. In the given period, the increase in production amounted to approximately (-1.55) thousand tons.

The corn self-sufficiency ratio was 94% in 2006, and it has decreased to 68% in 2020. Its self-sufficiency ratio in 2020, compared to the previous year, is reduced by only 2%. In 2020, compared to 2006, local production increased by about 18%, and compared to 2019 – by 23%. In 2020, compared to 2006, imports increased by 188%, and compared to 2019 – by 34%. In 2020, compared to 2006, exports have decreased by 96%, and compared to 2019, the change is zero and amounts to only one thousand tons. In the given period, The average absolute increase of local production amounted to approximately (-6.72) thousand tons per year.

The potato self-sufficiency ratio was 88% in 2006, and it increased to 92% in 2020. Its self-sufficiency ratio in 2020, compared to the previous year, is reduced by only 1%. In 2020, compared to 2006, local production increased by about 24%, and compared to 2019 – by 7%. In 2020, the rate of potato import equaled the rate of 2006 (24 thousand tons). Compared to 2019, imports increased by 26%. In 2020, compared to 2006, exports increased by 300%, in 2019 there were no changes in the indicator (4 thousand tons), and compared to 2018, it decreased by 86%. During the given period, the average absolute increase of local production amounted to approximately one thousand tons per year.

The self-sufficiency ratio of vegetables was 79% in 2006, and it decreased to 63% in 2020. Its self-sufficiency ratio in 2020 is reduced by 1% compared to 2019. In 2020, compared to 2006, domestic production decreased by about 2%, but increased by 9% compared to 2019. In 2020, compared to 2006, imports increased by 117%, and compared to 2019 – by 3%. In 2020, compared to 2006, exports increased by 233%, and compared to 2019, they decreased by 17%. In this period, the average absolute increase of local production amounted to approximately (-4.9) thousand tons per year.

The self-sufficiency ratio of grapes in 2006 was 112%, and in 2020 this indicator increased to 145%. Its self-sufficiency ratio in 2020, compared to 2019, is reduced by 6%. In 2020, compared to 2006, local production increased by about 96%, compared to 2019 – by 8%. In 2020, compared to 2006 and 2019, imports are reduced by 81%. In 2020, compared to 2006, exports increased by 308%, and compared to 2019, they decreased by only 3%. Production growth during this period was 1.72 thousand tons per year.

The ratio of self-sufficiency in milk and milk products was 82% in 2006, and decreased to 81% in 2020. Its self-sufficiency rate in 2020 has not changed compared to 2019 and remains at 81%. In 2020, compared to 2006, domestic production decreased by about 6%, but increased by 1% compared to 2019. In 2020, compared to 2006, imports increased by 17%, and compared to 2019 – by 11%. In 2020, compared to 2006, exports increased by more than 1000 percent, and compared to 2019 – by 200%. Nevertheless, the average absolute increase of local production in the given period was approximately (-7.1) thousand tons per year.

The egg self-sufficiency ratio was 85% in 2006, and it increased to 97% in 2020. Its self-sufficiency rate has increased by 1% in 2020 compared to 2019. In 2020, compared to 2006, domestic production increased by about 171%, compared to 2019 – only 2%. In 2020, compared to 2006, imports decreased by 38%, and compared to 2019 – by 13%. In 2020, compared to 2008 (data for 2006 is not recorded), exports increased by 700%, and compared to 2019 – by only 60%. The average absolute increase of domestic production in the given period was about 31.9 million tons per year.

The coefficient of food self-sufficiency of the population of Georgia basically repeats the trend of local production. In other words, as local production increases, so does the self-sufficiency ratio. However, there are exceptional cases when factors other than local production have an influence (negative or positive) on the self-sufficiency ratio. For example, although local potato production in 2011 increased by about 20% compared to the previous year, its self-sufficiency rate decreased by 18%. This was caused by an incredible increase in the import rate (increased 25 times compared to the previous year). In 2013, in the case of maize, local production increased by about 36% compared to the previous year, but its self-sufficiency rate decreased by 4%, largely due to the 74% increase in exports and 143% increase in imports (the effect of local production and exports failed to offset the negative effects of imports). In 2015, despite a 30% increase in local production of grapes, compared to the previous year, its self-sufficiency rate decreased by 44%. This was caused by a 41% decrease in exports compared to the previous year. In 2011, despite a 6% increase in local vegetable production, compared to the previous year, its self-sufficiency rate decreased by 4%. This was caused by a 50% decrease in exports compared to the previous year.

It should be noted that the local production of agro-food products is affected by such indicators as: the fall and spring sown areas of agricultural crops, the yield, as well as the fertility of livestock and poultry. In addition, other external factors affect the production rate. For example, weather changes, natural disasters.

It is true that food insecurity in Georgia is unfavorable, but it also means that the potential for improving production is high (Jeowell Research, 2017: 6). In the study of food security and nutrition status (2017: 22), it is also noted that in the Caucasus region, the importance of local production for food security is obvious, as a large part of the population depends on their own natural farming. As a result, for many producers in the region, their productivity and production reliability are directly related to the amount of food they consume. Therefore, their food security is directly linked to their own food production. The situation is worsened by the fact that agricultural production is the only source of income for them. According to the data of 2020, 246 thousand people are employed in agriculture (farming, forestry and fish farming), which is only 20% of the employed. The average monthly income from the sale of agricultural products, calculated per household, as of 2020, is only 54.1 GEL. He holds only 5% of their monetary income. This indicates that farms are poorly developed.

The United Nations Sustainable Development Goals Report (2018) provides the following formulation – achieving sustainability requires increasing economic growth and is directly related to achieving food security, improved nutrition and viable agriculture. Agricultural sustainability can be achieved through the use and implementation of techniques in farms that will help produce crops, increase the level of satisfaction of the population's needs, at the same time, it will help protect the environment and natural resources (Naveen Kumar Arora, 2018).

It is estimated that the economic growth of the agricultural sector in GDP reduces poverty much more than the growth of other sectors (Sustainable Development Solutions Network, 2013). Food security is significantly dependent on the development of agriculture. The development of this field is especially important for developing countries. In Georgia, the import of agro-food products is steadily 3.5 times higher than the export. By creating a positive trade balance, the GDP will increase significantly.

Discussion.

The study of the paper allowed the authors to conduct a short discussion, through which it was possible to answer the question: does Georgia really have the prospect of increasing the level of food security and self-sufficiency of its own population. As can be seen from the above analysis, Georgia really has the opportunity to increase the food security of its own population. For sustainable food security, it is important to study the level of food prices in the country, as well as to determine how affordable the said prices are for the population. In order to assign a statistically significant weight to the food expenses of the population, it is necessary to know the incomes of the population, the average monthly income per capita. Both food and average monthly incomes have increased. However, the increase in income is not enough to cover the change in food prices, because in the real situation of Georgia, it is impossible to fully satisfy the food ration of the population with the monthly income per head of the population.

The discussion about the paper was reflected in the following results:

1. The potential of increasing the level of food security and self-sufficiency of Georgia should be studied in a new context - in post-Covid conditions, against the background of hostilities between Russia and Ukraine;
2. Georgia's food security can be increased only by establishing EU standards, both for the production of local food and nutrition products, and for their import.
3. It is necessary for the government of Georgia to ensure a stable business environment for the production of domestic agricultural products, to establish non-tariff barriers on the import of food and nutrition products in order to adequately respond to the requirements of the European Union regarding the production of local food and nutrition products.

Conclusions.

Based on the above, we can conclude that for such a small country as Georgia, increasing food security depends on the consistent development of many interconnected processes in the agro-industrial sphere, because at the modern stage, only natural and climatic conditions do not provide the opportunity to increase self-sufficiency in food and nutrition products. It can be seen from the article that Georgia, by imposing non-tariff barriers on food imports, should promote the development of local production of local food and nutrition products, promote the formation of a favorable business environment in this area.

The significant and rapid changes in the food and nutrition supply chain caused by the Covid-19 pandemic can be used by Georgia as an opportunity to make the most of its natural-climatic conditions and favorable transit location in the local production and key area of food and nutrition products.

In conclusion, we can offer recommendations to the government to increase food security in Georgia. In particular, food and nutrition products manufacturing companies operating in Georgia should: study their competitive advantages, determine the possibility of their implementation, in order to withstand the strong competition in the production and key process of food products; should take care of raising the competencies and professional skills of their staff, training, retraining and qualification of their managers; should introduce a proper information technology system in order to receive timely information about changes in world prices and quality of food products, and to develop a correct strategy; must maintain the logistics chain of production and sale of food and nutrition products; they should correctly and rationally approach the technological process of manufacturing food and nutritional products; They must synchronize their production processes to reduce their production costs and increase efficiency.

The results of the research will be useful for food and nutrition product manufacturing companies operating in Georgia and the government.

REFERENCES

1. Abuselidze, G., Alekseieva, K., Kovtun, O., Kostiuk, O., & Karpenko, L. (2022). Application of Hedge Technologies to Minimize Price Risks by Agricultural Producers. *Lecture Notes in Networks and Systems*, 246, 906–915.
2. Asatiani, S. (2010). Food security policy and regulation in Georgia. Tbilisi. 243 p.

3. Chavleishvili, M., Erkomaishvili, G., & Seturidze, R. (2013). Strategic directions of food security in Georgia in the conditions of globalization. International scientific conference "Strategic directions of food security in Georgia under the conditions of globalization". "TSU" publishing house. Tbilisi. <http://online.tsu.edu.ge/ge/science/10283/?p=20>
4. Colin, S. (2018). Food Security, Revised and updated version to appear in the next edition of The International Encyclopaedia of Geography. 2019 [D. Richardson, N. Castree, M. Goodchild, A. Kobayashi, W. Liu, R. Marston (eds.)]. John Wiley & Sons, Ltd., New York.
5. Davitashvili, L. (2018). Food security situation, trends in numbers. Ministry of Environment Protection and Agriculture of Georgia. 343 p.
6. Department of Agriculture USA, (2020). Food Security Systems in a Pandemic: Publisher - Michigan State University Lansing, 29 p.
7. Demetrashvili, N. (2012). Food security in Georgia - food for everyone. "Science" magazine. Publishing house "Oxfam". Tbilisi.
8. Dongju, K. (2022). Sustainable development and food security in the context of the global crisis. *Food Security*, Euronius-Georgia publishing house. <https://euronewsgeorgia.com/2022/06/01/sursatis-usaprtkhoeba/>
9. Kacia, I. (2020). Food security and COVID-19 in Georgia. *ISSET Economist*, 7, 104-116. <https://iset-pi.ge/ka/blog/74-sasursato-usaprtkhoeba-da-covid19-sakartveloshi>
10. Kharaisvili, E. (2017). Challenges for sustainable food security in Georgia, XV EAAE Congress in Parma: Towards Sustainable Agri-Food Systems: Balancing between Markets and Society.
11. Koghuashvili, P., & Chikhladze, N. (2021). For the issue of perfecting the strategy of agriculture and rural development. *Economic Profile*, 16(1), 63-75.
12. Lekashvili, E. (2012). For the issue of food security strategy. *Economics of Georgia*. <http://geoconomics.ge/?p=4926>
13. Meskhia, I. (2013). Food component in the national security system of Georgia. *Business and Legislation*, 7, 14-24.
14. Mohylevska, O., Abuselidze, G., Dragan, O., Gorovij, V., & Opanasiuk, V. (2021). Theoretical and practical aspects of the formation of an integrated quality management system in milk processing enterprises. *E3S Web of Conferences*, 295, 01036.
15. Naveen Kumar, A. (2018). Agricultural sustainability and food security, Society for Environmental Sustainability.
16. National Statistical Service of Georgia, (2022). Food safety. http://www.geostat.ge/index.php?action=page&p_id=751&lang=geo (accessed: October 2022)
17. National Statistical Service of Georgia, (2022). Food balances. <https://www.geostat.ge/ka/modules/categories/297/sasursato-usaftrkhoeba> (accessed: October 2022)
18. Ohanisian, A., Levchenko, N., Shyshkanova, G., Abuselidze, G., Prykhodko, V., & Banchuk-Petrosova, O. (2022). Organic farms are the fundamental basis for the sustainable foreign economic activities of agrarians in Ukraine. *Environmental & Socio-economic Studies*, 10(2), 49-61
19. Slobodianyuk, A., & Abuselidze, G. (2019). Prospective of provision of dairy products for the population of Ukraine. *E3S Web of Conferences*, 135, 01019.
20. Slobodianyuk, A., Abuselidze, G., & Lyman, V. (2021). Economic efficiency of oilseed production in Ukraine. *E3S Web of Conferences*, 234, 00001.
21. Talikadze, N. (2021). Food accessibility in Georgia - latest trends. *Journal Communities & Collections*. <http://dspace.tsu.ge/xmlui/handle/123456789/903>
22. Talikadze, N. (2022). The State of Food Security - Latest Trends in Figures. *Journal Economy and Social Policy*, 5, 5-16. https://idfi.ge/ge/food_security_latest_trends_in_numbers
23. Tsereteli, Z. (2020). Food Security as a Major Global Problem". International Scientific Conference Economy - XXI Century. <http://conferenceconomics.tsu.ge/?mcat=0&cat=arq&leng=ge&adgi=920&title>
24. Je well, R. (2017). Food security and nutritional status research, bridging innovation and development.
25. Jijavadze, T. (2022). If we have problems in terms of food security, we can count on Europe and the USA. *Economics*, 5, 56-65.
26. World Development Report, (2008). "Agriculture for Development," International Bank for Reconstruction and Development/The World Bank, Washington, DC. <https://openknowledge.worldbank.org/handle/10986/5990> (accessed: October 2022).