

# Food security of Russia - modern challenges and possible solutions

*Asat Abdullin*<sup>1</sup>, *Rashit Vafin*<sup>2\*</sup>, *Irina Turgel*<sup>2</sup>, and *Natalia Khoroshkevich*<sup>2</sup>

<sup>1</sup>FSBEI of HE South-Ural State University, Chelyabinsk, Russia

<sup>2</sup>FSAEI of HE Ural Federal University named after the first President of Russia B.N. Yeltsin, Yekaterinburg, Russia

**Abstract.** The article is devoted to the study of normative and legal support problems of modern state food policy affecting the food security provision as one of the main components of the economic and national security of modern Russia. Evolution of the legal “food security” concept definition of the Russian Federation in domestic legislation. The current challenges of food security of the country related to both external and internal factors, including those caused by the COVID pandemic — 19 were considered. Supporting the approach of S.Yu. Glazyev on basic models of ensuring food security, considering the economy's modern digital transformation and in particular the agro-industrial complex, authors suggest that we are in a transition period from an existing dynamic model to a new future innovation model for food security. Based on the studied and generalized scientific material, substantiate the conclusion that the most promising directions of food security is the use of innovative digital technologies in the agro-industrial complex of the country. It is noted that the existing normative and legal framework in modern conditions requires further development, and for this it is necessary to adopt a comprehensive Federal Law “On food security in the Russian Federation.” In it, the consolidation of the strategic goal “social and economic development of the country to improve the quality of Russian citizens' life” by applying innovative technologies in the AIC would be set.

## 1 Introduction

Food security issues as one of the main components of the national state security acquire special importance for the modern Russian Federation, considering the country's entry to the World Trade Organization (WTO) and “Western” sanctions, especially in the context of the COVID-19 pandemic. For its implementation, it requires an effective state policy that meets modern requirements of food security, based on the necessary regulatory and legal framework including international, enabling the development and implementation of organizational and management solutions for long - term perspective food policies based on the digital economy with the introduction of digital, innovative technologies in the agro-industrial complex of the state. One of the obstacles to this is “Imperfection of normative and

---

\* Corresponding author: [r.r.vafin@urfu.ru](mailto:r.r.vafin@urfu.ru)

legal regulation of information technologies' development in the AIC" [1]. This has mainly determined the relevance and choice of the research topic by the authors. But in order to understand the formation process of the modern state food policy, it is necessary to consider it in historical development and in particular, with the evolution of the "food security" concept itself in the relevant normative and legal documents at various development stages of modern Russian statehood.

## 2 Materials and Methods

Along with general scientific cognition methods, the methodological basis of this scientific research is the use of private scientific methods, such as: descriptive, comparative, and legal, and historical approach to food security concept consideration based on the presence of several development stages of food security of our state.

Most modern domestic experts in the field of food security believe that: "In Russia, the need to solve the problems of ensuring food security relates to distortions in the agrarian reform, a sharp decline in production at the beginning of the 90s of the last century, with the threat of losing state independence..."

The analysis shows that before the adoption of the Food Security Doctrine in 2010, the country has experienced a collapse in production due to errors in structural transformation.

The adoption of the Food Security Doctrine and other normative documents providing economic support to the rural areas allowed to improve production rates of major agricultural types of products" [2].

The measures taken by the state in the last decade made it possible to change the situation in the agro-industrial complex in a positive direction, although they did not solve all the problems faced by the AIC.

Director of the Institute of Agrarian Research E. V. Serova perfectly reasonably notes that in addition to the physical food availability, food security of the country has two more characteristics - economic accessibility (that is, the population's ability to buy this food) as well as the safety and quality of food. And in that sense, we may have problems. It is already clear that after the pandemic, the incomes of most people around the world will drop. And the measures to be taken in this direction already lie in the plane of social policy - it is necessary to support the population, the expert believes [3]. At the same time, as some researchers note, not only are the incomes of most of the country's population falling, but also the social inequality between a small percentage of citizens receiving super incomes and the population bulk whose income was affected by a pandemic continues to dramatically increase, and this is already a threat to Russia by the possibility of a social explosion [4].

Therefore, in his report, the Chairman of the State Duma Committee on Agrarian Affairs, academician of the Russian Academy of Sciences V. I. Kvashin at the Parliamentary hearings on the topic "Food security of the Russian Federation and the increase of agricultural products' exports: legal aspects" has specifically emphasized that: "For sure, food security is an essential element in ensuring Russia's national security. Without an effective food security system, no State can be considered sovereign." At the same time noting that on the way "from the field to the counter", about 17% of the harvested agricultural products are lost. The products reaching the counter are estimated at 7 trillion rubles, and to the end consumer - 14 trillion rubles, that is, the trading network carries out "immense price markups". He sees a way out of this situation in limiting trade margins, and firstly, on basic necessities. This is a list of 10 main food products — meat, milk, fruit, egg, bread, potatoes, etc. The trade margin should not exceed 15%. This can address the challenge of ensuring the availability of food to the population. Products should be produced exclusively according to our GOSTs and under strict control [5].

Consequently, the organization and legal regulation of the “physical food availability” and its safety are gaining special importance, but it is necessary to consider suddenly emerging objective problems, in particular, the impact of the COVID-19 pandemic on the reduction of incomes in the main part of the country's population, reducing purchasing power, i.e., “economic food accessibility.” In this case, it should be noted the timely response of the Government of the Russian Federation, which created an interdepartmental working group on monitoring and rapid response to consumer prices' change for socially significant goods by its Executive Order [6]. This shows the possibility of solving tactical tasks through legal regulation for the short term, but not achieving strategic goals in ensuring food security.

In the National Security Strategy of the Russian Federation, which is the basic document of strategic planning, one of the priorities of ensuring national interests is to improve the quality of life of Russian citizens, which is also ensured by food security. Specific measures for its provision have been set, but the concept of “food security” itself was not defined [7].

The term “food security” was introduced in scientific practice for the first time in 1974 at the Rome World Food Conference, which meant “stability preservation in food markets with the availability of basic food products for all countries of the world” [8]. Then, at the World Food Summit (Rome 1996), a new, more expanded concept was given, and in 2009 it was supplemented, resulting in food security understood not only by physical and economic access to food, but also social [9].

In domestic legislation, the concept of “food security” was first defined in the Federal target program “Stabilization and development of agro-industrial production of the Russian Federation for 1996—2000” [10], which was attempted to be formulated in the Federal Law draft “On Food Security in the Russian Federation” [11], which was never accepted.

This concept's interpretation received further development in the domestic legislation in the “Doctrine of food security of the Russian Federation” 2010, it already reflected that: “Food security of the Russian Federation is one of the main directions of national security of the country in the medium term, a factor in maintaining its statehood and sovereignty, the most important component of demographic policy, a prerequisite for the implementation of a strategic national priority - improving the quality of life of Russian citizens by guaranteeing high standards of life support.

The strategic goal of food security is to provide the population with safe agricultural products... The guarantee of its achievement is the stability of domestic production, as well as the availability of the necessary reserves and stocks” [12].

Yet, the introduction of economic sanctions against our country and subsequent active work started in Russia since 2014 on food import substitution, as well as the basic provisions' implementation of the Food Security Doctrine 2010 called for the adoption of a new Food Security Doctrine, which considers the recommendations of the Food and Agriculture Organization of the United Nations (FAO) on the limit share of imports and stocks of food resources has been further developed in the key strategic planning regulations. It was reflected in the concept of food security, which was defined as: “The state of social and economic development of the country, in which food independence is ensured in the Russian Federation, physical and economic accessibility of food products meeting mandatory requirements is guaranteed for every citizen of the country in the amount of no less than rational norms of food products' consumption essential for an active and healthy lifestyle” [13].

Food security issues have been studied quite widely by our domestic scientists. The vast majority of them have argued the inseparable relationship between national, economic and food security. Thus, in her monographic work T.M. Yarkova distinguishes a significant range of domestic scientists who considered national security issues P.B. Kutlina, A.G. Svetlakov, A.N. Semin, A.I. Tatarin and others. Including, scientists who started the development of

teachings in the field of “food security”, namely: A.I. Altukhov, I.G. Ushachev, G. A. Sevryukova, Yu. Moiseev, N. Rodnina, A. G. Markov [14].

Generating the approaches of modern domestic scientists to the food security problems, the development of the normative and legal framework related to it can be concluded that the issues of ensuring food security need to be addressed as tactical tasks that can be solved by means of legal regulation in the medium term, which are mainly successfully solved, such as prices' growth for fuel and lubricants, agricultural machinery, fertilizers, issues of products' pricing for the AIC, increase of acreage by introducing lost agricultural land into rotation, reduce electricity tariffs and transport taxes for agricultural machinery, etc. [15]. While the strategic nature objectives in the field of food security are still the tasks fixed in the normative documents of strategic planning designed for long-term perspective to “create economic conditions for the development and implementation of modern technologies, stimulating innovative development” [16] which require further improvement of the regulatory framework in this area as one of the most important directions of ensuring food security of our state.

### 3 Results and discussions

Back in 2013, a group of experts of Izborskiy club under the leadership of the Russian Academy of Sciences' academician S.Yu. Glazyev in his report “On Food Security of Russia” noted that different ratios of production, logistics and consumer mechanisms create different models of food security ensuring; among them, the highlighted the basic ones and noted that our country's dynamic model associated with the introduction of advanced agrotechnologies on the main array of agricultural areas (so-called “green revolution”) with global differentiation of food production, which is characteristic mainly of the fourth to fifth global technological tenor, i.e. the period 1930-2010, cannot be recognized as meeting the requirements of food and national security of Russia. The main objective of Russia's policy in the field of food security for the near future should be the transition to an innovative model of agricultural development related to mass development of gene-engineering and other biotechnologies, which should become the leading part of the emerging sixth global technological tenor [17].

In recent years, adoption of doctrinal and strategic documents: “Strategy for the development of the information society in the Russian Federation for 2017-2030” [18], “On the Strategy of Economic Security of the Russian Federation for the period up to 2030” [19], “On national goals and strategic objectives for the development of the Russian Federation for the period up to 2024” [20], “National strategies for the development of artificial intelligence for the period up to 2030” [21], “Development concepts of relations regulations in artificial intelligence technologies and robotics up to 2024» [22], “Doctrine of food security of the Russian Federation” [23], and also the departmental project “Digital agriculture“ developed on their basis in the Ministry of Agriculture [24], started the irreversible digital transformation of the entire economy of our country, including the agro-industrial complex. But at the same time, according to domestic scientists: “... the digital economy is not a part of the economy, but its other qualitative state based on the new role of digital technologies” [25].

According to the authors, this means the onset of the transition period (green revolution 2.0) from the existing dynamic model to the future innovative model of agricultural development in our country.

In the joint German—Russian researches carried out within the framework of the project “Digitalization of agricultural production in Russia for the period 2018—2025”, it was noted that: “In innovative digital technologies of the 21st century, there is the greatest potential for economic growth thanks to precision, automation and new management capabilities. To a

large extent, digital transformation is applicable to agriculture especially based on the technological diversity of agricultural production, crops and related diversity and labor-intensity of production processes.

In today's world, the level of digital technologies' development plays a crucial role in the competitiveness of countries. The transition to a digital economy is seen as a key driver of economic growth. According to the Ministry of Agriculture of Russia, “the use of digital technologies in the AIC allows to increase profitability of agricultural production due to point costs optimization and more efficient funds' distribution. The introduction of the digital economy allows to reduce costs by at least 23% when implementing an integrated approach.” [26].

In these studies, it is quite reasonably emphasized that innovative technologies conceal huge potential for economic growth, and the level of digital technologies plays a decisive role. It is these provisions that are reflected in the domestic conceptual documents that we have considered in the ongoing scientific study. Unfortunately, this was not fully reflected in the new Food Security Doctrine, although it was emphasized that it was the basis for the regulatory legal acts' development in the field of food security.

Therefore, according to the authors, to further develop the normative and legal framework in the field of food security, it is necessary to develop and adopt a comprehensive Federal Law “On food security in the Russian Federation”. Moreover, at the legislative level, food security issues are reflected in the legislation of many CIS member states, the USA, the European Union, and some others.

Indeed, the structural basis of the proposed Federal Law may be the Doctrine of Food Security of the Russian Federation of 2020, but it is important that it has fixed provisions regulating food security for the long term based not only on the normative legal framework of the doctrinal and strategic documents adopted in recent years, but also considering the modern achievements of science and technology used in the agro-industrial complex being characteristic to the fourth and fifth tenor, as well as innovative technologies peculiar to the sixth technological tenor only projected or already under development. Legislative consolidation of these provisions, definition of the conceptual terminology content will allow to lay a legal basis for accelerated overcoming of the fifth technological tenor to the sixth emerging in the agro-industrial complex.

Conducted comparative legal analysis of the approach to the concept definition of “food security” in regulations at various development stages of our state in the modern era allowed the authors to propose their own version of the concept under consideration for the new law: “Food security - the state of social and economic development of the country **based on modern innovative digital technologies**, which ensures food independence of the Russian Federation, guarantees physical and economic accessibility of food products for every citizen of the country meeting mandatory requirements in volumes not less than rational consumption standards of food products necessary for an active and healthy lifestyle.”

## 4 Conclusions

The scientific study examined the legal regulation issues of food security provision in modern Russia. Including the definition of “food security”, which is reflected in the normative and legal documents adopted on various development stages of our society and reflecting the economic development level of the state and, accordingly, the state policy in the field of food security. The approaches to the food security problem of modern domestic scientists have been studied, which makes it possible to conclude that this topic is widely discussed, there is a significant amount of scientific, research, monographic works in which foreign experience has been studied and reviewed and practical recommendations for ensuring food security

were offered on its basis being one of the main components of ensuring the economic and overall national security of the State.

This allowed authors to suggest that the modern digital transformation of the domestic economy, including active AIC digitalization, is a transitional period from the existing basic "dynamic model" to the future more promising "innovative model" of food security. As well as to propose to develop and adopt a comprehensive Federal Law "On Food Security in the Russian Federation" for further development of the normative and legal framework in the field of food security, formulate its brief concept and give a definition of the "food security" concept based on the modern digital economy.

Noting that in general the agro-industrial complex has recently been successfully developing, there is no direct threat to food security, but there are systemic problems that need to address tactical tasks in this area for the medium term. Particular attention should be paid to the consequences of the COVID-19 pandemic, which significantly reduced the purchasing power of a large part of the population, resulted in increased food prices affecting the basic foundations of food security as "economic accessibility of food". To minimize negative consequences by the Government of the Russian Federation, monitoring and prompt response to changes in consumer prices for socially significant goods is performed, showing the possibilities of rapid legal response on the part of the state to the tactical tasks' solution.

Noting that the necessary normative and legal basis for ensuring the food security of the state has now been established, it possesses organizational and legal mechanisms for further effective implementation of State food policy in this area to address long-term strategic objectives based on the latest innovative digital technologies. But to complete the process of forming legislation in the field of food security it is necessary to adopt a comprehensive Federal Law "On food security in the Russian Federation", which would further develop the application of innovative technologies in the agro-industrial complex of Russia and lay the legal basis for the accelerated transition from the fifth technological tenor developing in the agro-industrial complex to an innovative model of agricultural development within the framework of the emerging sixth global technological tenor.

## References

1. Digital transformation of agriculture of Russia, 80 (2019)  
URL:<https://rosinformagrotech.ru/data/anons/tsifrovaya-transformatsiya-selskogo-khozyajstva-rossii>
2. A.N. Anishchenko, A.A. Shut'kov, Food policy and security, **8 (1)** (2021)  
URL:[doi:10.18334/ppib.8.1.111777](https://doi.org/10.18334/ppib.8.1.111777)
3. T. Karabut, How COVID-19 will affect Russia's food security. URL:  
<https://rg.ru/2020/05/20/kak-covid-19-povliiaet-na-prodovolstvennuiu-bezopasnost-rossii.html>
4. A.E. Varshavsky, Sociological Research, **8**, 52-61 (2019) URL:  
<https://dlib.eastview.com/browse/doc/54506379>
5. "Food security of the Russian Federation and increasing exports of agricultural products: legal aspects". Parliamentary hearings, URL:<http://komitet20.km.duma.gov.ru/Novosti-Komiteta/item/18439991/>
6. Order of the Government of the Russian Federation dated 27.02.2021 No. 497-r <On approval of the groups' list of consumer goods and services related to the management sphere of federal executive bodies for the analysis purposes of growth causes in consumer prices and economic regulation measures development aimed at ensuring the markets' balance of consumer goods and services, URL:  
[http://www.consultant.ru/document/cons\\_doc\\_LAW\\_378654/](http://www.consultant.ru/document/cons_doc_LAW_378654/)

7. Decree of the President of the Russian Federation dated 31.12.2015 No. 683 "On the National Security Strategy of the Russian Federation". URL:[http://www.consultant.ru/document/cons\\_doc\\_LAW\\_191669/](http://www.consultant.ru/document/cons_doc_LAW_191669/)
8. Universal Declaration on the Eradication of Hunger and Malnutrition 1974, Report of the World Food Conference, Rome, November 5—16, (1974) (E/CONF.65/20) — URL:<http://www.un.org/russian/documen/declarat/hunger.htm>
9. Rome Declaration on World Food Security 1996 and 2009. URL:[https://ru.qaz.wiki/wiki/World\\_Food\\_Summit](https://ru.qaz.wiki/wiki/World_Food_Summit)
10. Decree of the President of the Russian Federation dated 18.06.1996 No. 933 "On the Federal target program of stabilization and development of agro-industrial production in the Russian Federation for 1996-2000" URL: <http://www.consultant.ru/cons/cgi/online.cgi?req=doc&base=EXP&n=235560#05883130817645572>
11. Resolution of the State Duma of the Federal Assembly of the Russian Federation dated December 10, 1997 N 1963-II GD "On the Federal Law "On Food Security of the Russian Federation". URL:<https://base.garant.ru/6272065>
12. Decree of the President of the Russian Federation dated 30.01.2010 No. 120 "On approval of the Doctrine of food security of the Russian Federation" URL: [http://www.consultant.ru/document/cons\\_doc\\_LAW\\_96953/](http://www.consultant.ru/document/cons_doc_LAW_96953/)
13. Decree of the President of the Russian Federation dated 21.01.2020 No. 20 "On approval of the Doctrine of food security of the Russian Federation". URL: [http://www.consultant.ru/document/cons\\_doc\\_LAW\\_343386/](http://www.consultant.ru/document/cons_doc_LAW_343386/)
14. T.M. Yarkova, *Food security: Russian experience and foreign practice: monograph*, 192 (2019) URL:[https://rusneb.ru/catalog/000200\\_000018\\_RU\\_NLR\\_BIBL\\_A\\_012412274/](https://rusneb.ru/catalog/000200_000018_RU_NLR_BIBL_A_012412274/)
15. Meeting of M.V. Mishustin with the leadership of the Communist Party faction in the State Duma on April 6, 2020 URL: <https://gov-news.ru/news/1072534>
16. Decree of the President of the Russian Federation dated 13.05.2017 No. 208 "On the Strategy of Economic Security of the Russian Federation for the period up to 2030" URL: [http://www.consultant.ru/document/cons\\_doc\\_LAW\\_216629/](http://www.consultant.ru/document/cons_doc_LAW_216629/)
17. "On food security of Russia" Report of the group of experts of the Izborskiy club under the leadership of academician S.Yu. Glazyev 2013. URL: <https://izborsk-club.ru/1725>
18. Decree of the President of the Russian Federation dated 09.05.2017 No. 203 "On the Strategy of Development of the Information Society in the Russian Federation for 2017 - 2030" URL: [http://www.consultant.ru/document/cons\\_doc\\_LAW\\_216363/](http://www.consultant.ru/document/cons_doc_LAW_216363/)
19. Decree of the President of the Russian Federation dated 13.05.2017 No. 208 "On the Strategy of Economic Security of the Russian Federation for the period up to 2030" URL: [http://www.consultant.ru/document/cons\\_doc\\_LAW\\_216629/](http://www.consultant.ru/document/cons_doc_LAW_216629/)
20. Decree of the President of the Russian Federation dated 07.05.2018 No. 204 "On national goals and strategic objectives of development of the Russian Federation for the period up to 2024" URL: <http://publication.pravo.gov.ru/Document/View/0001201805070038>
21. Decree of the President of the Russian Federation dated 10.10.2019 No. 490 "On the development of artificial intelligence in the Russian Federation" (together with the "National strategy for the development of artificial intelligence for the period up to 2030") URL:[http://www.consultant.ru/document/cons\\_doc\\_LAW\\_335184/](http://www.consultant.ru/document/cons_doc_LAW_335184/)

22. Order of the Government of the Russian Federation dated 19.08.2020 No. 2129-r, Development concepts of relations regulations in artificial intelligence technologies and robotics up to 2024 URL: [http://www.consultant.ru/document/cons\\_doc\\_LAW\\_360681/](http://www.consultant.ru/document/cons_doc_LAW_360681/)
23. Decree of the President of the Russian Federation dated 21.01.2020 No. 20 “On Approval of the Doctrine of Food Security of the Russian Federation” URL: [http://www.consultant.ru/document/cons\\_doc\\_LAW\\_343386/](http://www.consultant.ru/document/cons_doc_LAW_343386/).
24. Departmental project “Digital agriculture”: official publication, 48 (2019) URL: <https://mcx.gov.ru/upload/iblock/900/900863fae06c026826a9ee43e124d058.pdf>
25. T.V. Miroljubova, T.V. Karlina, R.S. Nikolayev, *Economy of the region*, **16 (2)**, 377-390 (2020) URL: <https://cyberleninka.ru/article/n/tsifrovaya-ekonomika-problemy-identifikatsii-i-izmereniy-v-regionalnoy-ekonomike/viewer>
26. Digitalization of agricultural production of Russia for the period of 2018-2025 Research of the cooperative project “German-Russian agrarian-political dialogue” URL: [https://agrardialog.ru/files/prints/apd\\_studie\\_2018\\_russisch\\_fertig\\_formatiert.pdf](https://agrardialog.ru/files/prints/apd_studie_2018_russisch_fertig_formatiert.pdf)