



Research Article



The Main Approaches to The Definition of Food Security & Agricultural Chemistry: History, Modernity, Health Issues

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Abstract: The definition of food security is the physical, social and economic access of all people at all times to sufficient and healthy food so that their food needs and food preferences are met for a healthy and active life. This current article aims to analyze the issues regarding the main approaches to the definition of food security & agricultural chemistry in retrospect, as well as in the current state, health issues, and development perspective. Regarding the importance of food security in health, we can mention: ending hunger, achieving food security and better nutrition; everyone's access to safe, nutritious and sufficient food throughout the year, ending various forms of malnutrition. Increasing agricultural productivity and access to production resources, and creating sustainable food production systems. To that end, multiple general scientific techniques and knowledge methods (deduction, induction, formal-logical approaches, synthesis, analysis, and system-structural are utilized. Considering the results, policymakers and regulators of development programs have considered the following in determining and regulating the main approaches of the agricultural sector: ensuring food security, maintaining vanilla production capacity to be self-sufficient in basic products, supporting the agricultural sector, and protecting basic resources and improving productivity. It is established that the legal definition of food security & agricultural chemistry exists only at the subordinate level, in a document of a doctrinal nature, in the Russian Federation. It is concluded that there is no federal legislation in our country specifically dedicated to the legal regulation of food security. The formation stages of the concept of food security described in the paper demonstrate the evolution of the international concept of food security & agricultural chemistry and the problems of its current state, which shall be taken into account by the domestic legislator when developing national legislation.

Keywords: Food Security, Agricultural Chemistry, Nutrition Security and Food Security Improvement.

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1. INTRODUCTION

Starting to consider the problems of defining the concept of "food Security & Agricultural Chemistry", we will clarify that this category is interdisciplinary in nature. Within the framework of our research we will consider its legal aspects, which have received some coverage in the earlier papers of the authors of this article^{1,2}. It should be noted that food Security & Agricultural Chemistry in the Russian Federation is defined at the official level as "the state of country's socio-economic growth, which ensures the Russian Federation's food independence, guarantees the economic and physical availability for residents of the country of food products that satisfy the compulsory demands"³⁻⁵. The strategic approaches of the agricultural sector in Russia from the point of view of experts, policymakers and regulators of development programs have considered the following in determining and regulating the main approaches of the agricultural sector⁶⁻⁹

- Ensuring food security
- Maintaining vanilla production capacity to be self-sufficient in basic products
- Supporting the agricultural sector
- Protecting basic resources and improving productivity.

At the same time, this definition is difficult to call legal, because it is enshrined in a subordinate legal act of a doctrinal nature^{10,11}. Protecting food security and food supply and preventing diseases related to food shortages require a national law^{12,13}. Failure to comply with food security leads to protein and vitamin deficiency diseases, such as rashitism¹⁴⁻¹⁶. Overall, there is no federal law directly devoted to this issue, as well as there are no legislative acts focused on the legal provision of national security and its main types in the Russian Federation, which we also consider a significant gap in legal regulation and a serious flaw in the domestic legislator^{4,9}. In this regard, we consider it necessary within the framework of this article to address the problems of defining the food security concept, including based on the historical aspects of its formation and evolution on a global scale.

2. METHODOLOGY

The methodology of this study is on the basis of applying multiple general scientific techniques and knowledge methods (deduction, induction, formal-logical approaches, synthesis, analysis, and system-structural)³⁻⁸, and also private scientific methods, including: comparative legal, formal-legal, and historical-legal^{8,9}, collecting and systematic survey on laboratory-based literatures¹⁰⁻¹⁴, and also consulting with legal institutes and food health ministry for available or non-available rules in this scopes. Then, summarized information categorized and presented in result with discussing on every notable issue.

3. RESULTS AND DISCUSSION

If we talk about the genesis of the concept of food security & agricultural chemistry, it should be recognized that its foundations did not originate on the domestic legal basis. It is reasonably assumed that the issues of food security & agricultural chemistry, precisely as a certain doctrine, were considered in the paper of Frank L. McDougall entitled "The Agricultural and the Health Problems" (1935), covering a set of issues regarding food security^{6,10} and proposing to unite the efforts of all countries in solving such global problems of

our time as the lack of proper nutrition and world hunger. Almost a decade later, in 1943, over the course of the WWII, an international conference on international food security & agricultural chemistry, was set up in Hot Springs, Virginia, USA, attended by the representatives of forty-four states, including the USSR⁶⁻⁸. The following issues were discussed on the agenda of the conference: a) the concept of "Freedom from need" dedicated to solving the problems of food supply, its stability and nutrition; b) recognition of the international ("global") level of food topics; c) definition of the economic component of food security (absence of poverty and unemployment)¹⁰⁻¹³. There was a landmark event for ensuring food security & agricultural chemistry, at a global level as a consequence of the WWII – formation of the Food and Agriculture Organization of the United Nations (FAO), which had a severe effect upon the formation of the modern concept of food security^{5,17}. Thus, according to Part I of Article 11 of the International Covenant on Economic, Social and Cultural Rights, adopted on December 16, 1966, "The parties acknowledge the right of everybody to a sufficient living standard for themselves and their families, such as sufficient food, clothes, and shelter, and the constant growth of living situations. The member states take proper steps to secure the employment of that right, understanding the value regarding international collaboration on the basis of free consent"^{7,15}. Further, Part 2 of Article 11 contains the following obligations of the states to ensure food security: "The parties, understanding the basic right of everybody to be liberated from hunger, should exercise the necessary measures, personally and by international collaboration, such as implementing particular plans, to (a) promote the production methods, food distribution, and storage through extensively utilizing technological and scientific information, distributing knowledge of nutrition policies and enhancing agricultural methods in the way as to obtain an effective improvement and apply natural sources; and (b) secure an equal distribution of the world's food supply following the demands and interests of both food-exporting and food-importing nations"^{1,4}. The "food security" concept was introduced for the first time at the official level in 1974 (Rome, November 1974), in which 134 world powers participated. In general, food security was described as follows: "the abundance and availability at all times of the necessary worldwide food stocks of basic foodstuffs, sufficient for sustained and expanded use, and compensation for the prices and production fluctuations"⁶. In addition, due to this conference, the FAO has formulated global indicators of food security, some of which are still used today: the ratio of world grain stocks to world consumption; the grain supply ratio from the 5 major exporters to needs; the dynamics of world grain prices, etc (<http://www.fao.org>). The UN/FAO Committee on World Food Security (WFS) has been set up in response to the recommendations of the 1974 World Food Conference (WFC). The modern definition of food security & agricultural chemistry, which corresponds to the realities of the present time, was developed in 1996 following the results of the World Food Summit in Rome and was enshrined in the Rome Declaration on World Food Security: "Food security endures while all of the individuals perpetually possess social, physical, and economic access to sufficient, secure, as well as rich food to suffice their dietary necessities and food choices to manage a vibrant and healthful life. There remain 4 keys to food security: stability, use, availability, and access. The food factor is an indispensable part of the food security & agricultural chemistry, concept"^{8,14}. Later, different definitions of food security were fixed in various international documents, but it should be noted that all of them are

variations of the previous ones. For example, the definition contained in the Declaration of the World Summit on Food Security ^{4,10} refers to the desire "for a comprehensive, two-pronged approach to food security that includes: (1) direct measures to immediately mitigate hunger for those most vulnerable, as well as (2) medium- and long-term programs in the areas of sustainable agriculture, food security, nutrition and rural development to address the root causes of hunger and poverty, including through the progressive implementation of the right to adequate nutrition"⁷. In the last decade, the right to ensure food security has been implemented within the framework of the UN Sustainable Development Goals, and no significant changes have been made to the definition of food security. At the same time, a general global trend should be noted – since the mid-90s of the XX century, there has been a "fusion" of the concepts of food security and nutrition security ⁵⁻⁷, proposed by the International Research Institute for Food Policy. The UN Committee on World Food Security noted the following at its thirty-ninth session on October 15-20, 2012, in order to clarify the terminology: "In the light of ongoing hunger, poverty and malnutrition, the efforts are still being made to raise awareness of the meaning of food security. This is a state achieved at the level of the individual. This concept combines the availability of access to adequate food that fully meets the nutritional needs of a person, and non-food factors that allow a person digesting food and using nutrients to ensure the growth and maintenance of the body and to perform basic vital functions". The term "food security and nutrition" has been the reference for all documents of the WFC since 2009 and is also used by the FAO as one of its corporate strategic goals: "Improving food security and nutrition". The High-Level Expert Group (HLEG) established by the Committee makes recommendations on "Food Security and Nutrition", and the Committee is responsible for developing the "Global Strategic Framework Agreement on Food Security and Nutrition" (<http://www.fao.org>). It should be noted that these trends (the

"merging" of food and nutrition security) are already reflected in the strategic documents of the Russian Federation specified in this paper, and we hope that they will find their rightful place in the federal legislation devoted to the problems of ensuring food security⁶⁻¹¹.

4. CONCLUSIONS

Based on the study, we can make the following conclusions: First, the problems of ensuring food security & agricultural chemistry, on a global scale were realized by the world community relatively recently, less than a century ago. However, it should be noted that significant progress has been made in this area over the past time. In particular, the necessary regulatory framework has been formed and an effective system of international bodies has been created to coordinate relevant activities. Secondly, the concept of food security & agricultural chemistry, and its foundations has been consolidated at the official level, including in relation (in fact, identification) with food security. Thirdly, the Russian Federation, which significantly modernized the regulatory framework for ensuring food security in 2020, is keeping pace with global trends in the analyzed area, and the development of a special federal law on the legal regulation of food security issues is on the agenda.

5. AUTHORS' CONTRIBUTIONS STATEMENT

Galina S. Belyaeva, Elena V. Krikun, Grigory A. Mantul, Zaurbek A. Saidov, and Nikolai Tarkovsky equally designed, supervised and conducted the study. All authors discussed the results and commented on the manuscript.

6. CONFLICT OF INTEREST

Conflict of interest declared none.

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