

# Food security issues in the economic security system of the Republic of Armenia

M.G. Manucharyan<sup>1,2,3,4,\*</sup>

<sup>1</sup>The Institute of Economics named after M. Kotanyan, Yerevan, Armenia

<sup>2</sup>National Academy of Sciences of the Republic of Armenia, Yerevan, Armenia

<sup>3</sup>Armenian National Agrarian University, Yerevan, Armenia

<sup>4</sup>Armenian State University of Economics, Yerevan, Armenia

**Abstract.** One of the most important components of national security is food security. The country's food security is mainly ensured through the development of agriculture, food production and food import systems. The main problems of the development of the agri-food system of the republic were the increase of the level of provision of the population with food, the increase of the level of economic protection of the country, which, first of all, requires an increase of agricultural production to provide the population with locally produced food products, raw materials to the processing industry as much as possible, as well as to increase export volumes. The main goal of the research is to develop and outline the ways of further development of the RA food self-sufficiency based on the development of agricultural production. Based on the analysis of the current situation in the agricultural market, to propose a set of economic development measures, which will contribute to the increase of the food security level, the development of the agri-food system, the reduction of the poverty level of the rural communities. The research substantiated the preconditions for further growth of agricultural production, as a result of comprehensive studies and analyzes, the main directions of improving food production and increasing efficiency were outlined, which conditioned the scientific novelty.

## 1 Introduction

Ensuring food security is one of the most important components of national security. Food security is a complex of legal, organizational, logistical and other events, which is aimed at the necessary quality and sufficient quantity for safe health, complete food, which available to every member of society, including the most vulnerable segments of the population and can be consumed by them any time and in any situation, including emergency situations and martial law. The country's food security is mainly ensured through the development of agriculture, food production and food import systems.

According to the Rome Declaration on World Food Security and Plan of Action accepted at the World Food Summit in 1996, food security is available when people all the

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\* Corresponding author: [mg-meri@mail.ru](mailto:mg-meri@mail.ru)

time have the physical, social, and economic access to adequate, safe, nutritious food to meet their dietary needs, preferences and lead a healthy and active life. Conversely, food insecurity exists when people do not have access to enough safe, nutritious food for normal grow, develop, and lead an active and healthy life [8, pp.1-2].

The distribution of food-insecure households within economies is unclear, but rainfall variability is expected to worsen food security in areas already stressed by hunger, malnutrition [11, pp. 508] and food price hikes [3, 5].

## **2 Materials and Methods**

Economic security is a situation in a country where a certain number of vital economic spheres, which guarantee the realization of national interests, ensure such a long-term, purposeful, continuous growth of the individual, the state and the society, under which the probability of a threat to the national economy and its scale is minimized [6, p. 53].

Food security is a key component of economic security. Food security is one of the sources of national security in the medium term, a factor in maintaining its statehood and sovereignty, a key element in the implementation of demographic policy, a necessary condition for achieving the national priority of improving the quality of life of citizens by ensuring high living standards [6, p. 55].

Prominent international economists, political scientists, politicians, researchers of competent authorities have studied various issues of food security and economic security. Armenian researchers A. Bayadyan [2, pp. 9-12], A. Markosyan [7, pp 6-7], S. Avetisyan [15], K. Grigoryan [4, pp 7-9] and others were not left out.

During the research, the methods of systematic, economic-statistical analysis and comparative analysis were used.

## **3 Results and Discussion**

Food security has arguably become one of the most serious challenges of the century. Statistics show that at the beginning of our era, the population was only 300 million. The number of people increased by only 30 million during the first millennium, but by the end of the second millennium, more precisely, on October 12, 1999 it reached 6 billion, and on October 31, 2011 it exceeded 7 billion [1, p. 5]. It is enough to look at the "World Population Calculator" posted on the Internet, and it will immediately become clear how fast the country's population is growing. According to the data calculator today 7.88 billion people live on Earth. It took over 200,000 years humanity to reach a population of 1 billion (around 1800year) and only about 200 years for that number to rise to 7 billion. According to the UN Population Fund, the major milestones in the world's population were passed in the following years:

- 1 billion - 1804
- 2 billion - 1927 (in 123 years)
- 3 billion - 1960 (after 33 years)
- 4 billion - 1974 (in 14 years)
- 5 billion - 1987 (in 13 years)
- 6 billion - October 12, 1999 (in 12 years)
- 7 billion - October 31, 2011 (in 12 years)

In 2021, the world's population will continue to increase and at the end of the year will be 7,948,118,519 people. Natural population growth will be positive and will amount to 96,617,035 people.

Below are the coefficients of change in the population of the Earth, calculated for 2021:

- Fertility: 433 382 children per day (18 057.58 per hour)
- Death rate: 168 678 people per day (7 028.23 per hour).

The population growth rate of the Earth in 2021 is 265,629 people per day [13]

With such rapid population growth, the problem of providing food to the population is becoming more acute. According to the Food and Agriculture Organization of the United Nations (FAO), more than 820 million people in the world are currently starving [10]. 18-20 million people die of hunger every year. This means that food shortages have become a serious threat not only to development but also to social and political instability for some countries [12].

Food security is used both at the international level and in the Republic of Armenia. The importance of the problem in the international arena led to the creation of powerful food structures in the UN system, elsewhere, such as [4, p. 10]:

- Food and Agriculture Organization of the United Nations (FAO)
- International Fund for Agricultural Development (IFAD)
- Food Program (WIP)
- United Nations Development Program (UNDP, USAID)
- World Food Council
- International Fund for Agricultural Development
- US Department of Agriculture Marketing Assistance Program, CARD today
- Central and Eastern European Food Data Network (CEEFOODC)
- Low-Income Food-Deficit Countries (LIFDC)
- Consultative Group to Assist the Poor (CGAP), etc.

To ensure food safety system adopted numerous laws, which can be distinguished:

- Human Rights Declaration,
- UN Millennium Development Goals,
- RA Law “On assurance of food security”,
- “The strategy for the national security of the Republic of Armenia”,
- “The concept on assurance of food security of the Republic of Armenia”,
- “The 2010-2020 strategy for sustainable development of rural communities and agriculture in the Republic of Armenia”,
- “The 2017-2021 plan of measures stemming from the concept on assurance of food security of the Republic of Armenia” approved by the RA Government Protocol Decision No.48 dated December 1, 2016, and others.

The basic indicator of the country's food security is the level of food self-sufficiency.

The analysis of the data of the National Food Balance of the Republic of Armenia shows that, according to the data of 2019, the level of self-sufficiency of vitally important food products, calculated at energy value, was about 52.5%.

High level of self-sufficiency is provided in the country in the direction of potatoes, vegetables, fruits, grapes, mutton, goats, eggs, fish, above-average level of self-sufficiency is provided for beef, pork, milk and dairy products, and wheat, legumes, vegetable crops, The level of self-sufficiency of poultry meat remains low [9, p. 112].

According to operative estimates of the RA National Food Balance for 2017-2018 and 2019, the data on the level of self-sufficiency of essential food products are as follows [14]:

**Table 1.** Self-sufficiency level of essential food products [14].

| First necessity food products | Self-sufficiency level, % |       |       |
|-------------------------------|---------------------------|-------|-------|
|                               | 2017                      | 2018  | 2019  |
| Wheat                         | 33.2                      | 31.5  | 30.7  |
| Potato                        | 102.6                     | 102.6 | 99.2  |
| Vegetables                    | 102.5                     | 104.7 | 101.5 |
| Fruits and berries            | 109.7                     | 108.9 | 100.5 |

|                        |       |       |       |
|------------------------|-------|-------|-------|
| Grapes                 | 106.4 | 104.8 |       |
| Grass and legume crops | 49.7  | 38.6  | 50.0  |
| Vegetable oil          | 4.3   | 2.2   | 1.4   |
| Sugar                  | 65.2  | 68.6  | 76.4  |
| Eggs                   | 98.2  | 99.5  | 99.9  |
| Milk                   | 91.2  | 86.8  | 86.2  |
| Beef                   | 91.5  | 89.2  | 95.9  |
| Pork                   | 58.0  | 53.3  | 74.1  |
| Mutton and chevon      | 138.9 | 128.6 | 105.8 |
| Poultry                | 22.5  | 26.6  | 28.6  |
| Fish                   | 101.8 | 109.0 | 128.3 |

In international practice, the food security position of countries is assessed by the Global Food Safety Index, which consists of three components: food availability, accessibility, quality and safety, each of which in turn is formed by several factors. In 2019, for the first time in Armenia, the Global Food Safety Index was calculated, as a result of which the Global Food Safety Index of Armenia was 57.1, including 51.7 in terms of food availability, 66.2 in terms of accessibility, 45.4 in terms of quality and safety.

The food security of any country is considered to be ensured if there is a level of economy that guarantees the physical and economic availability, accessibility, quality and safety of food in accordance with the health norms of the population.

The main strategic directions of food security are the increase of food expenditures in gross expenditures, the increase of gross domestic product per capita, the regulation of agricultural import tariffs, the reduction of poverty, the provision of food security in various parts of the population, etc.

The main strategic directions of food accessibility in order to ensure the availability of food are the availability of sufficient food stocks, the state reserve of vitally important food products, prevention of possible food crises in emergencies, balanced territorial development, availability of infrastructure necessary for the normal operation of the food value chain, reduction of losses in the food production, storage and sale chain, increase of state expenditures in the field of agriculture, etc.

The main strategic directions of food security in order to ensure the quality of food and safety are the existence of agricultural standards, the introduction of food quality and safety standards and systems, the monitoring and control over their provision, improving the phytosanitary-veterinary-sanitary condition, the existence of a national nutrition strategy, which should envisage the diversification of the food used, the provision of proteins, vitamins, microelements necessary for the vital activity of the organism through food, etc.

The above-mentioned directions of the food security strategy of the Republic of Armenia should be outlined and included in the new security strategy and action plan of the food security of the Republic of Armenia.

One of the most important issues of strategic importance for each country is the food security of the population, which can be solved through developed agricultural production. The issue of food security and the formation of the food market is vital especially for those countries whose territorial, climatic and economic conditions do not allow them to meet the demand of the population with locally produced food products. This reality is also characteristic for the Republic of Armenia.

The globalization of the world economy and economic integration poses new challenges, especially to developing and former communist republics, to face the danger of becoming an appendage of economically superpowers and not being "swallowed". In such conditions, the task of ensuring national security largely depends on the level of development of the country's economy, the rate of economic growth [7, pp 6-7].

Grain, meat, milk, sugar and vegetable oils were still in short supply for the republic within the Soviet Union. The situation worsened in the 90s of the last century. The processes that took place in the transitional period led to the deterioration of the general economic situation of the republic, caused many socio-economic difficulties. The latter had a negative impact on the development of the economy, especially the agri-food system.

The agrarian market of the whole republic continues to function spontaneously, the level of food supply of the population is in a similar state. It should be noted that dairy products, meat, eggs, vegetable oil quantities required by physiological consumption norms provide only 27-50%.

If in the first years of the post-reform period, the state of the entire agricultural food production system was of concern only to specialists, it has recently become a matter of serious concern to statesmen and the government. It has become more worrying since the last Artsakh war. In order to stop the declining processes, to stabilize and predetermine the further development, it became necessary to develop programs in accordance with the new conditions, structures regulating economic relations, to work on their implementation, attracting investments, expanding state support. However, there is a lot to be done on this issue, undiscovered ways of development and settlement not only at the national level but also at the regional level.

The development of the economic security system of any state aims to create appropriate structures to neutralize or reduce the internal and external threats to that country. Through economic security assessment indicators, it is possible to use economic security management through quantitative correlations related to one side or the other. In order to increase the efficiency of this process, it is necessary to ensure the desired level of economic security indicators, given the degree of risk. Depending on the risk of the indicator and its magnitude, different periods and funds will be required to implement such a targeted policy. From the point of view of the economic security of the Republic, the development of ways to improve certain indicators in the most dangerous zone is currently of not only economic but also strategic importance.

The crisis situation in Armenia during the transition to a market economy (early 1990s) was the result not only of market transformations but also of the complex political environment in the region, as well as a number of reasons from the past. In particular, the recessionary processes typical of the republic's economy, the unfavorable regional developments, the structural radical transformations of the post-privatization period led to a sharp rise in the poverty level. Poverty in Armenia, as in a number of other countries in transition, is mainly due to food insecurity. Therefore, the solution of this problem is a necessary precondition for the gradual overcoming of poverty in the Republic and the establishment of socio-economic stability. Added to all this was the last war, which greatly reduced the agricultural potential of both the Republic of Armenia and the Artsakh Republic. Thousands of hectares of arable land remain under the control of Azerbaijan, which will lead to a significant reduction in the volume of agricultural products produced. At the same time, due to the creation of new border and military infrastructure, the access to agricultural lands of the Republic of Armenia, particularly pastures, has been reduced. The current situation is considered threatening for food security, which is a key component of Armenia's national security in Artsakh.

From this point of view, ensuring the necessary level of food independence is a strategic direction, which together with food security is the most important component of the Republic's food as well as national security. From the point of view of increasing the level of food security of any country, the stabilization of the socio-economic situation and further progress is very important.

## 4 Conclusion

To ensure the necessary level of food independence of the republic, it must be solved the problem of significant increase in locally food production. Its implementation will require additional involvement of financial, logistical and other resources, as well as the implementation of a number of measures aimed at creating a favorable legal and economic framework in the field of food production.

Another important direction is to ensure the physical and economic availability of food. The current legislation of the Republic of Armenia defines physical accessibility as the appropriate level of supply that satisfies the purchasing power demand of food at the place of consumption, and economic accessibility is the level of purchasing power demand of the population, which provides the population with access to food in quantities in accordance with physiological norms. Currently, the trade balance of food products in the country is negative, which in turn has a negative impact not only on the country macroeconomic indicators, but also worsens the socio-economic situation of the village. The level of foreign trade in food can not be considered sufficient. At present, a number of food products are imported, the demand for which was previously met by local production and, on the other hand, the export volumes of a number of agricultural and food products have been significantly reduced.

In order to increase the level of food security of the country, to increase the physical and economic availability of food, it is necessary:

- realistically assess and make effective use of the potential of the agro-industrial system;
- promote local food production;
- protect the interests of the domestic market and local producers;
- improve the balance of food trade;
- develop the necessary and supporting structures to ensure the free movement of food from the producer to the consumer.

Taking into account the above-mentioned factors, let us consider in detail the role and significance of the agricultural sector in solving the problems of both food security and food independence. In order to effectively solve the problem, it is first necessary to ensure the balanced and sustainable development of the agro-industrial system of the republic, increasing the efficiency of the use of labor, logistics, financial, natural and other resources. Therefore, from this point of view, the development strategy of the RA agro-industrial complex should first of all be aimed at the gradual increase of the level of food security and food independence of the country. In transition economies, poverty is mainly manifested by food insecurity. Based on the methodology of the Poverty Reduction Strategy Paper, the basis for estimating the poverty level of the country's population is the calculation of the absolute food and general poverty lines. Therefore, ensuring the availability of a food (consumer) basket calculated by the composition, structure and energy value of a scientifically substantiated minimum food basket is one of the main preconditions for overcoming poverty.

In the field of food security, the main goal of the RA agro-industrial system is to satisfy the population's demand for vital food products at the expense of local production, taking into account the safety of the latter for the health of consumers, proceeding from the strategy of economic development of the republic, the patterns of international division of labor and specialization. Promote the sale of food products with absolute or comparative advantages in foreign markets.

In order to achieve the above mentioned goal, it is necessary to solve the following main problems:

- to ensure the sustainable and balanced development of the agro-industrial complex, its separate branches (crop production, animal husbandry, logistics and services, processing of agricultural raw materials).

- To contribute to the increase of the level of food security and food independence of the republic and the strengthening of rural settlements.

- Improve the export-import balance of food products.

- In case of natural, man-made, ecological and emergencies of other nature, to ensure uninterrupted food supply to the population.

- Ensure food safety in accordance with international standards.

One of the most important preconditions for further productivity increase in agriculture, the solution of the food security problem, is the strengthening of rural areas, the increase of incomes of the rural population. In order to improve the situation in rural areas, to overcome rural poverty, there is still a need to clarify the state policy and its directions, taking into account the elimination of polarization and inequality between the village and the city, taking into account the manifestations of poverty not only in material but also in human development.

Due to the development of the republic's food industry, the implementation of a targeted policy to create a favorable business environment and strengthen competition, the necessary preconditions will be created to increase the level of food self-sufficiency (food independence), better meet consumer needs, create new jobs and improve the social situation of the population, in the field of raw material supply, sustainable development, increasing the income of the rural population and strengthening rural settlements.

The solution of these problems requires the implementation of complex measures, where in the field of competition, the introduction of a complete quality assurance system in accordance with internationally accepted standards is especially important. Another possible direction is to reduce the cost of locally produced agricultural raw materials. It will be possible to achieve this as a result of increasing the sustainable growth of agricultural crops and livestock production.

The solution of the problem of food security of the republic can be realized only with the joint efforts of state and territorial administration, local self-government, non-governmental organizations, as well as international financial institutions. In order to coordinate the work carried out in that direction, to increase the efficiency of the implemented measures, it is necessary to be guided by the provisions of the strategy of socio-economic development beneficial to the republic as a result of the analysis of the created situation. They should be developed on the basis of a correct assessment of existing barriers and opportunities, and a clear understanding of development priorities.

The main problems of the development of the agri-food system of the republic were: the level of providing the population with food for its own production, the increase of the level of economic protection of the country. This, first of all, requires an increase in the production of agricultural products in order to provide the population with locally produced food products, raw materials to the processing industry, as well as to increase the volume of exports.

The successful process of regulating the food market of the republic has many preconditions. It follows from the above sub-questions that one of the basic precondition is the sustainable, balanced development of agricultural production in an intensive way, for which it is necessary to create structures for the introduction of innovative technologies and to implement digital agricultural services. This will be one of the key factors, the long-term improvement and development of which will enable the restoration of the living standards of the population, purchasing power, overcoming obstacles that are destroying the economy, and many other negative manifestations.

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