

Food Safety Issue and Strategic Importance of Its Solution in the Republic of Armenia

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Abstract

The article presents the study results related to the disclosure of food safety issues in the Republic of Armenia and to the strategic importance of their solution. Taking into account the utmost strategic importance of solving the food security issue, it is necessary to handle the following key problems: 1) ensuring sustainable and balanced development of the agro-industrial complex and its individual branches (plant growing, animal husbandry, material and technical maintenance and services, agricultural raw material processing industry), 2) promoting the enhancement of food safety and independence level in the republic and strengthening rural settlements, 3) improving the balance ratio of food production, exportation and importation, 4) ensuring population's unobstructed food supply in case of raising technogenic, ecological or other types of emergency situations, 5) providing food safety in line with the stated international standards (MPC, MEL).

Keywords

Food Safety Issue, Improvement, Republic of Armenia, Strategic Importance, Security

1. Introduction

Agro-industrial complex of any country includes agriculture, industrial processing of agricultural raw material, its sale and production activities. Agricultural sector produces agricultural raw material for food and light industry, as well as foodstuffs for population. The level of agricultural development, in particular, determines the growth of the population's living standard, since it provides both the

life activity of more than one third of population, food supply of the whole population and the development of some industrial branches (particularly light and food industry), which function mostly on the basis of agricultural products. The main problem of the agricultural production development is to meet the population's demand for food products and agricultural raw material. Hence, any research, which is aimed at the identification of the problems in food safety system and their solution, is utterly important and relevant stemming from the strategic requirements developed for ensuring the population's food security by the government of the given country, namely Armenia.

2. Materials and Methods

The main goal of the research work is to study the current state of the RA population's food supply, socio-economic situation (employability, profit level, food consumption) and to develop a system of required measures to provide staple foodstuff to the country's population and to cope with the food safety issues.

To achieve the proposed goals the following objectives have been set up:

- 1) To study the current state of the issues peculiar to the agri-food system of Armenia, to evaluate the potential opportunities and characteristics of the agricultural branch development.
- 2) To assess the real volumes of foodstuff production and the level of population's food supply.
- 3) To disclose the created situation, development trends and to recommend solution ways for the problems raised in the agricultural production sector.

National and international professional literature sources referred to the food safety issues and agricultural production management, RA Laws and sub-legislative acts, economic development programs of the republic, reports of the RA National Statistics Service, publications of the former Ministry of Agriculture of RA, Ministry of Economy and other state bodies, as well as the research results of foreign organizations have served as theoretical basis for the current research.

Throughout research activities the methods of systemized, economic and statistical analyses, surveys and comparative evaluations have been applied.

3. Results and Discussion

- 1) Stabilization and further progress of socio-economic situation is of utmost importance from the prospect of increasing the level of food security of any country. Upon the study results it has been revealed that though in the recent 10 years significant economic growth has been recorded in the RA (the index of Gross Domestic Product (GDP) for 2020 grew up by 6.8% compared to the same index recorded in 2010), the current socio-economic state (employment rate, income level, food production and consumption, etc.) and food provision rate of the Armenian population indicate that the food supply of the whole population and speeding up of some industrial branches (particularly light and food industry) functioning mainly on the basis of agricultural products are still unable to

meet the demand for food product and agricultural raw material (Tspnetyan, 2005; *The Socio-Economic Situation of the Republic of Armenia, 2006*, <https://armstat.am/en/?nid=82&id=262>).

High rates of economic growth still kept on in 2020. In 2020, 12.6% economic growth against the average of 8.4% economic growth for the last three years has been recorded. The GDP of 2020 per capita, in terms of dollars, increased 4.8 times in the republic compared to the index of 2008, while against 2000 it exceeded about 6 times. Intangible services, construction and agricultural sectors have played a significant role in ensuring such level of economic growth (Avetisyan, 2002; Grigoryan et al., 2003; *Armenia in Numbers, 2017*; *Statistical Yearbook of Armenia, 2020*).

The main socio-economic indices recorded in the republic throughout 2016-2020 are introduced in the respective **Table 1**.

The analysis of the study results indicate that to ensure sufficient independence level in food industry sector the issue related to the significant increase in the volumes of domestic food production should be solved. To this end, some financial, material and technical, as well as other resources should be additionally involved; besides, a number of activities should be implemented aimed at the creation of favorable conditions for the economic entities in the agrarian sector, as well as at the establishment of appropriate legal and economic environment in the food production sector.

Another important direction is the provision of physical and economic availability of food product. According to the current legislation of the RA physical availability is defined as the appropriate level of supply that meets the purchasing power demand of food at the place of consumption, and economic availability is the level of the purchasing power demand of the population that ensures the possibility of purchasing food for the population in the amount corresponding to physiological norms (Ghazaryan & Ghazaryan, 2005). Studies have shown that currently the food trade balance in the republic is negative, which in turn has an adverse impact not only on the macro-economic indicators of the country, but also worsens the socio-economic conditions in the rural communities.

Table 1. RA main socio-economic indicators (by market prices, billion drams)*.

| Indicators | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------------------|--------|--------|--------|--------|--------|
| Gross domestic product | 3200.9 | 3400.0 | 3927.1 | 4566.4 | 4987.6 |
| Industrial output volume | 719.8 | 865.4 | 890.3 | 940.3 | 1027.4 |
| Agricultural output volume | 739.9 | 844.6 | 839.4 | 975.2 | 1002.6 |
| Construction volume | 697.4 | 678.5 | 700.9 | 920.2 | 989.8 |
| Retail turnover | 910.0 | 990.4 | 992.0 | 1027.0 | 1034.4 |
| Service volume | 599.4 | 638.2 | 660.4 | 790.8 | 898.3 |

*The table is composed based on the data of the RA NSS—“*Armenia in Numbers, 2017*”, p 18 and “*Armenia in Numbers, 2020*”, p. 21.

External turnover level of food products cannot be considered as satisfactory. Currently a number of food products are imported, the demand of which was previously met at the expense of domestic production, and on the other hand, the export volumes of a number of agricultural food products have been significantly reduced (Hakobyan, 1998).

To increase the safety level of agri-food system in the republic and to enhance the physical and economic availability in food product purchase it is required:

- To make a relevant and time-bound assessment and to efficiently use the potential of agro-industrial system.
- To promote the production of domestic foodstuff.
- To protect the interests of internal market and domestic manufacturers.
- To improve food turnover balance.
- To ensure free movement of foodstuff from producer to consumer and to establish the needed and facilitating structures for it.

2) The specific weight of agricultural products in the GDP of the republic has demonstrated a decreasing tendency in the recent years. In 2016 it made up 22.9% of GDP, in 2017 it was about 20.0% against 43.5% in 1994; nevertheless, on the whole an increase in the gross product was ensured and economic growth in the branch was registered. Since the privatization process the main land users in the agricultural production of the republic are rural households. More than 96.2% of the agricultural gross product is produced by private sector, besides, according to the data of the recent 5 years, about 61.7% of the gross product accounts for plant growing branch, while 39.3% accounts for animal husbandry. According to the data of NSS for 2016 the mentioned ration made 65.2% and 34.8% respectively (<http://old.minagro.am/>, <http://armversion.am/index-191/>).

Considering the abovementioned factors as a priority, below we'll comprehensively address the role and significance of agricultural sector in the solution of the problems concerning both food safety system and its independence. We consider that for the efficient solution of the proposed issue, first of all it is necessary to ensure the balanced and sustainable development of the agro-industrial system of the republic by increasing the efficiency of the use of labor, material and technical, financial, natural and other types of resources.

Thus, from this perspective, the development strategy of the RA agro-industrial complex should be first of all directed to the gradual enhancement of the food security and independence level. In the countries of transitional economy, poverty is mainly manifested through food insecurity. According to the methodology of the strategic plan for poverty alleviation, the calculation of food and general lines of poverty is the basis for assessing the poverty level of the country's population. Therefore, ensuring the availability of food and consumer baskets calculated with the composition, structure and energy value of a scientifically based minimum food basket is one of the main preconditions for overcoming extreme poverty (poverty) and poverty, respectively.

The agro-industrial system has traditionally been and is currently one of the

most important sectors in the structure of the RA economy. According to the data of the last five years, its specific weight in the gross domestic product of the country was averagely 32.6%, including agriculture (19.8%). The number of people employed in agriculture and forest enterprises is about half of the total number of people employed. In the structure of external turnover/commodity circulation the food import and export volumes in value terms are over (Kloyan, 2002). Characterizing the current state of the RA agro-industry, it can be stated, that sustainable development trends have been observed for the recent years in the mentioned branch. Meanwhile, the agrarian sector of the republic, particularly agronomy branch, is still rather vulnerable, which is mostly related to the relatively scarce land and water resources, small farm sizes developed after land privatization process and their fragmentation, as well as to underdevelopment of production, market and social infrastructures and incompatibility with market farm conditions.

The main goal of the agro-industrial system in the food security sector is to possibly meet the population's demand for the staple food products at the expense of domestic production with the account of the latter's safety for the consumers' health, upon the provision of sustainable progress based on the development strategy of the country's economy and labor division and specialization regularities. It is necessary to also promote the production of foodstuff with absolute or relative advantages and contribute to their sale in the external markets (Chakhmakhchyan & Mkrtchyan, 2002).

So, our studies have shown that in order to achieve the abovementioned goals the following main problems should be solved:

- a) To ensure sustainable and balanced development of agro-industrial complex and its individual branches (plant growing, animal husbandry, material and technical supplies and services, agricultural raw material processing industry).
- b) To promote the increase in food safety and independence level, as well as development and strengthening of rural communities.
- c) To improve the balance of food export and import.
- d) To ensure population's uninterrupted food supply in case of natural, technogenic, ecological and other types of emergency situations.
- e) To provide food safety in line with international standards.

The realistic assessment of the development of the RA agro-industrial complex proves that there is significant unused intensive and extensive potentials. Currently, around 61.2% of the purchasing power demand of food products included in the food balance is satisfied due to local production, calculated by energy value. The subsistence economic potential of the country enables to increase the self-sufficiency level by 10 - 15 percentage points for mid-term perspective. In addition, for a number of food products included in the food basket (sugar, bread products, meat, vegetable oil), the dependence on their import will continue in the future as well, because it is not only impossible, but also economically inefficient to satisfy the demand formed in the domestic market only at the expense of local production. Liberalization of international trade is aimed

at the mutually beneficial commodity turnover among the countries based on the specialization of the agrarian production.

Promotion of the domestic production of agricultural food and hence, the expansion of export volumes and the gradual substitution of imported food products with domestic ones (meat, milk, animal fats, fish, poultry meat, egg, etc.) is possible to implement due to targeted policy, some elements of which are as follows:

Plant growing:

- Ensuring introduction of advanced agrotechnical system.
- Implementing scientifically justified events aimed at the fertility enhancement of the agricultural land types.
- Seed breeding, development of selection/breeding activities, nursery farms.

Animal husbandry:

- Improvement of pedigree work.
- Prevention of animal contagious diseases, implementation of anti-epidemiological and diagnostic measures.
- Coordination of rangelands (pastures, grasslands) utilization, recovery of their water supply system.

Infrastructures:

- Strengthening state quality control in the branch of material and technical supplies and services, namely over the imported pesticides, fertilizers and animal medicinal products.
- Updating agricultural machinery, increasing technical equipment level, lease investment, introducing mechanisms for the joint implementation of technique and hence, decreasing the specific weight of manual works.

Economic management:

- Modeling and design of farms with optimal sizes, resulting in increased efficiency of agrarian production.
- Providing support in the direction of technical re-equipment of organizations, introduction of new technologies, protection of interests of local producers, promotion of product export, replenishment of borrowed funds in the field of agricultural product processing.

One of the most important prerequisites for further productivity increase in the field of agriculture and food security problem solution is strengthening rural settlements and increasing the incomes of the rural population. There is still a need for specification of state policy and its directions related to the improvement of the situation created in the rural communities, considering elimination of polarization and inequality between the village and city, taking into account the manifestations of poverty not only from the point of view of material, but also from the prospect of human development (*Management of the Agro-Industrial Complex, 2003*).

Due to the development of food industry branch of the Republic and, thereto, implementation of targeted policy aimed at the formation of favorable business environment and competition enhancement, the required prerequisites will be

created for the increase of food self-sufficiency level (food independence) in the republic, more complete satisfaction of consumer demands, improvement of population's social situation through creation of new workplaces, as well as for the sustainable development of agriculture, as a branch of raw material supply, increase of rural population's income and for strengthening of rural settlements (Kloyan, 2002; *Management of the Agro-Industrial Complex*, 2003).

In order to further develop food industry branch it is required to handle the problem related to the quality and quantity of the agricultural raw material used, as well as provide uninterruptedness of supply, since the mentioned factors predetermine not only the reproduction rates of working capital and the qualitative-quantitative indices of the finished product but also serve as key components for the increase of labor productivity, improved use of production stocks, cost price decrease of the product and for the increase of profitability indices of the branch (Boev, Rummyantseva, & Dadalko, 1998).

3) The membership of the Republic of Armenia to the World Trade Organization (hereinafter WTO) will not significantly deteriorate the balance in the domestic market in the structure of local and imported food consumption for short-term perspective. Being a member country of the WTO, the trade and economic policy of RA is implemented in accordance with the provisions of the WTO agreements and the assumed obligations. Accordingly, it is necessary to determine the amount of domestic support provided to the agricultural sector, to exclude export surcharges, to carry out non-tariff regulation in accordance with the provisions of relevant WTO agreements. Within the framework of implementing obligations assumed by the Republic, it is necessary to develop and introduce a system of additional payments instead of the tax privilege provided to the agricultural sector. In addition, the expansion of state support in the agro-industrial system should also be aimed at increasing the export volumes of local products. To this end, it is necessary to increase the competitiveness of food products in foreign markets. In this regard, first of all, it is necessary to ensure the competitive quality and price of the product in the potential sale markets (<https://www.ams.usda.gov/>).

4. Conclusion

Thus, the solution to the problem of food security in the Republic of Armenia should proceed in the following directions of agricultural production intensification, efficient organization and management improvement in the specialization and cooperation procedures:

1) In order to increase the efficiency of agricultural production, in particular for crop production sector, it is necessary to enhance the self-sufficiency level in seed production through the implementation of a number of activities such as surface reclamation of the available agricultural land plots, water supply, particularly via drip and underground irrigation, fertilization with organic and mineral fertilizers and growth stimulants produced through innovative technologies,

seeking efficient ways of combating agricultural plants diseases and pests, as well as establishment and operation of specialized seed breeding farms and bases.

2) In order to increase the efficiency of agricultural branches of (animal husbandry, horticulture, pomiculture, viticulture, etc.) it is necessary to promote the consolidation and specialization process of the current farms through cooperation.

3) In the development of infrastructures and food market formation, it is very such as juice, beverage, canning, dry fruit industry and to important to ensure a mutually beneficial and uninterrupted relations between producers and processors. It is necessary to increase the production output of the traditional processing branches, organize the sale of those products in the foreign market.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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