

Kbiladze, David; Samsiani, Medea; Metreveli, Shorena

Article

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Ekonomika

Provided in Cooperation with:

Vilnius University Press

Suggested Citation: Kbiladze, David; Samsiani, Medea; Metreveli, Shorena (2019) : Some problems of food safety in Georgia, *Ekonomika*, ISSN 2424-6166, Vilnius University Press, Vilnius, Vol. 98, Iss. 2, pp. 112-121,
<https://doi.org/10.15388/Ekon.2019.2.8>

This Version is available at:

<https://hdl.handle.net/10419/323078>

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Some Problems of Food Safety in Georgia

David Kbiladze*, Medea Samsiani

David Agmashenebeli University of Georgia, Georgia

Shorena Metreveli

Business and Technology University, Georgia

“The future of a nation depends on how it feeds itself”¹

A. Brillat-Savarin

Abstract. The problem of production, export, import, and consumption of food was always topical for the long history of Georgia. At all stages of the society development, people need to take food and meet other of their elementary needs. Issues of food supply assurance of the Georgian population differ according to time periods. For example, in Shota Rustaveli’s poem *The Knight in the Panther’s Skin* it is described that the living standard in the 11th–13th centuries was quite high. At that period of time, Georgia was fed with its own grain. Along with wealth, Shota Rustaveli also characterizes poverty. Most of the state’s income was spent on the poor people, so there was a large gap between the rich and poor population.

In the 16th and 17th centuries, the problem of poverty and wealth of the population was highlighted by prominent public figures: Sulkhan – Saba Orbeliani and Vakhushti Bagrationi. Ilia Chavchavadze describes the problem of poverty in the country by the end of the 19th century. Poor living conditions of the population were noted during the initial phase of Georgia in Soviet Union and during World War II. Better conditions existed at the last stage of socialism.

Meeting the population’s demand for principal foodstuffs and providing near-rational norms of such foodstuffs has always been a major objective of the governments of all times.

The prolonged transformation process of the economy of Georgia with its social characteristics was particularly painful. A sharp decline in the standard of life started from the 1990s. Before the economic collapse, a monthly rated wage in Georgia with its foodstuff purchasing power parity almost equaled that of developed countries.

Keywords: food safety, indicators, production, export, import, consumption standards of products.

¹ Natalia Svireiko, Food Security: study methods, ways to success. Belarusian Journal of International Law and International Relations. 2004 –N 4

* *Corresponding author:*

David Agmashenebeli University of Georgia, Address: 25 Ilia Chavchavadze Ave, Tbilisi, Georgia. Tel: 599 90 71 17.

Email: d.kbiladze@yahoo.com

Received: 22/07/2019. **Revised:** 27/10/2019. **Accepted:** 19/11/2019

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Introduction

Poverty and the problem of food safety are one of the most important issues under the UN Sustainable Development Goals, and are particularly topical for Georgia, with its common social-economic problems aggravated by those resulting from the crawling occupation of its northern neighbor now, when one-fourth of a century has passed since the country restored its independence. The present article considers the problem of food provision of the population of Georgia in an historical aspect, suggesting that the indices of providing the country's population with local foodstuffs were much favorable during the country's independence than in the periods when Georgia was a part of different empires against its will.

As the article shows, the picture of production, import, and export of the principal foodstuffs of the population is particularly unfavorable since 1990. For the purpose of analysis, the authors of the article propose to use the integrated indices of the food products consumption by the population.

By additionally employing the supply indicators under the UN Sustainable Development Goals, the article offers a methodology for develop a calculation plan of an index to calculate the moral and material damage inflicted to Georgia and its population by the creeping occupation of its northern neighbor.

Thus, food safety is an important part of the country's economic and physical security and must be given particular attention in the formation of the future programs of the social-economic development of the country.

Literary review

The economic literature considers the issue of food safety of populations both in developed and developing countries in two directions: the first is the relevant quality of the foodstuff produced in the country and the second direction is the solution of the issues of standards and certification of the agricultural products and foodstuff on the relevant market.

The FAO (FAO,1999) defines food self-sufficiency in broad terms: "The concept of food self-sufficiency is generally taken to mean the extent to which a country can satisfy its food needs from its own domestic production."

As Hoffmann and Harder (2010) state:

"A consensus has emerged among nations about the basic components of an effective food safety system based on modern science and management practices. In shorthand, the vision is of a farm-to-fork, risk-based, scientifically supported safety control system".

The concept of food self-sufficiency usually has to be understood as to what extent a country can meet its own demand for food products from its own domestic production (FAO, 2015).

In order to ensure the food security of countries in modern conditions, it is necessary to support domestic food production and reduction of imports. Many countries favour

such policies. For example, high levels of food self-sufficiency are 100% more common in the US and France, 93% in Germany, 78% in Italy, and 50% Japan, where the land is poor (Киреев, 1999).

“In 2013, a scandal broke in Great Britain regarding the horse meat use. Later, the scandal spread throughout Europe. It turned out that the cattle supply chain was polluted with horse meat in many European countries” (Independent Report, 2014.).

In Georgian reality, when considering the problem of food safety, alongside with the production quality, due attention must be paid to the low indicators of foodstuff production. Consequently, the population's demand is mostly met with imported products (Chitanava, 2018, p. 167).

Indicators of the UN Sustainable Development Goals and Georgian specifics

The 2015 Agenda for UN Sustainable Development puts 17 Goals and 169 Targets to realize by 2030, with ending poverty as Goal no. 1. Such an approach resulted from the fact that while since 1990 the number of people in extreme poverty has halved, the problem is still grave, as evidenced by one in five people of developing countries still living on 1,25 USD a day. There is a high risk of millions of people, who now receive a bit more than that amount, to approximate this category. Unfortunately, presently, 800 million people of the Planet have poor nutrition and 5 million children aged <5 die of hunger every year.

As per the Resolution of the UN Sustainable Development Goals, total poverty liquidation for all peoples of the world is planned to end by 2030. By 2030, it is planned to halve the proportion of men, women and children of all ages living in poverty in all its dimensions. It is planned to implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 to achieve substantial coverage of the poor and the vulnerable.

The UNO offers the national governments to develop an action platform in the field of sustainable development to develop the necessary information and forward them to relevant bodies. The UNO thinks that this will be a good means to coordinate statistics as well.

With the goal of supervising the performance of the Sustainable Development Goals, the UNO has developed 230, 100, 130 indicators. The countries are offered the optimal options of the indicators. Georgia has chosen 150 than 200 target indicators.

A number of world countries try to identify the differences between the indicators developed at national and international levels. The statistical bodies must use their status and potential to develop the abovementioned indices, particularly for the set of indices developed at various governmental institutions.

Quite many indicators aim to describe the process of eradicating poverty globally. At the same time, this piece of information is provided to inform the society about the course of food safety process. At present, in the whole world, the main idea is to identify the share of the population living on 1.25 USD a day or even on less than that. By 2030,

it is assumed that extreme poverty will be eliminated for all people living in Georgia; The SDG (2018) defines that extreme poverty is currently measured by people living on less than \$1.9 a day.

In respect to food and physical safety, the occupied territories of Georgia are far more problematic. According to Interfactnews (2015), as a result of another military opposition between Georgia and Russia in the Tskhinvali region which started on August 8, 2008, Georgia lost 228 peaceful citizens and 14 policemen and had 1747 wounded. Almost 150 000 people were forced to leave their houses and about 30 000 people are still refugees today

For our country and not only for it, alongside with the indicators recommended by the UNO, we consider to use indices of social rehabilitation of the population harmed by military actions and crawling occupation and use the following as the components of such indicators: forcibly displaced people from the occupation zones, as well as population killed or kidnapped by Russia during the periods following the crawling occupation, movable and immovable property, homestead lands, houses and irrigation lands, cemeteries, churches and monasteries and other objects of the citizens of Georgia found in the occupation zones, with the access to them forbidden for the forcibly displaced people. In order to identify the specific weight of the different components of the general index, a special interview of the relevant branch experts, state structures and forcibly displaced people is needed. The given kind of information must be treated on a monthly basis by the relevant bodies and sent to the UNO for worldwide publication.

While developing the new methodology to solve the food safety problems, we think it purposeful to make a list of products with their caloric values, which will help the helpless population receive the minimum needed calories as wild and other natural fruits. The problem can also be alleviated by developing smart indicators of household behaviour and life, which may be called their guide and which may help them to ensure rated calories for feeding.

Problem of food safety, historical overview

Historically, in Georgia, the problem of foodstuff provision of the population was always severe. Since the ancient times, Georgia's choice has been the proximity with Europe and co-existence with it. However, this was impossible due to the wars of conquest against our country and the permanent oppression of Georgian lands.

The European choice of the Georgian people and steps made towards Europe are now aggravated by the bitter legacy following the past path of our country.

Historically, in all phases of the societal development on the past way, first of all, people needed eating and drinking, dressing, biological existence and development, and spiritual life. In most periods of the development of the Georgian society, these components were reflected in the poverty or lack of material subsistence sources. However, the history of Georgia knows successful periods of a social-economic state, culture and education, when

the standard of life was quite high. Such periods are, first of all, the 11th–13th centuries of feudal Georgia, called the Renaissance (Chantladze, 1992, p. 10): “As Shota Rustaveli stated, XII-century Georgia had unseen wealth: uncountable gold and precious stones, which were as many as pebbles near the river or on the seaside. Particularly noteworthy is the large quantities of pearls, which are as big as a ball to play with” (Chantladze, 1992, p. 61).

The Georgia of that period totally met its local population’s demand for wheat. They used to organize wining and dining, feasts and banquets with the participation of great masses of people.

Shota Rustaveli talks about combating the poverty in the country as well. He notes the wisdom of the authorities of that time in combating poverty. In particular, as he says, 10% of the state income was used for the poor. Besides, the poor were employed at state industrial units, etc.

Sulkhan-Saba Orbeliani, a famous Georgian writer and scientist of the 16th–17th centuries used this particular allegory: “It is bad not to have anything, but having something in an ill manner is worst” (Gabidzashvili, 2006, p. 9).

The problems of poverty and wealth are also described by Vakhushti Bagrationi in his *The Georgian Chronicles* (natively known as *Kartlis Tskhovreba*).

At the end of the 19th century, great Ilia Chavchavadze tried to draw the attention of the society and government to the people resettling from their ancestors’ places and moving to other places to find lands because of the lack of fruitful lands and poor nutrition. The work by Ilia Chavchavadze *About Statistics* describes the lives of people in one of the wonderful corners of Georgia – Racha, showing that hard life made people use some forest areas for ploughing because of the lack of land, and moreover, some people, in order to feed their families, were forced to move to the North Caucasus, Alagir in particular, to work at a silver plant there. “The first resettlement there was registered in 1879. One man from Oni moved to Alagir that year (Alagir is a small place in the River Tergi region, near Ardonistskali. There is silver ore and a plant, which, if I am not mistaken, still works today – Ilia Chavchavadze). Later, from 1880, such resettlements were more common. So, before the end of 1882, 120 households moved to Alagir (The materials to study the economic life of state peasants of Trans-Caucasia, v. 11, p. 93)” (Chavchavadze, 1888).

Georgia had better living standards when it was a part of the Soviet Union, at the final stage of socialism in particular. As for the initial stage of compulsory Sovietization of Georgia and the II World War period, the food provision of the population was extremely poor. The situation in this respect was aggravated by lean years. “In some lean years, it was very hard for Georgia to feed its people with wheat. It should be noted that due to the drought in 1948, the Republic did not have a sufficient supply of cereals (wheat mainly). As K. Charkviani, then-time head of the Republic, wrote: he applied to I. Stalin to allot 30 tons of wheat for Georgia. “So much?” – asked Stalin, and gave his consent to send him a letter. Surely, Charkviani’s appeal was satisfied. However, as K. Charkviani recalls, I. Stalin categorically required Georgia to produce the sufficient supply of wheat itself and required to sow wheat over 1 million hectares, while there was only 1200 thousand

ha of cultivated land available in the Republic with over 300 thousand hectares occupied by perennial plants, 40 thousand hectares occupied by technical crops and 265,5 thousand hectares occupied by wheat. A new area of 735 thousand hectares was necessary to find to accomplish the task of Stalin.

By considering the political importance and difficulty to realize this task, K. Charkviani stated: “Comrade Stalin, it is impossible to find so much free land in Georgia. It will be difficult for us to accomplish this task” (Charkviani, 2004, p. 616).

Stalin’s answer was quite interesting:

“This task is not for one year surely. Let us take a period of seven years. Sow wheat instead of corn in the mountainous areas of western regions of Georgia. This will hamper erosion as well. Besides, there are favorable plain lands in Zestaponi region. Sow wheat there too. Just start chemization of land cultivation. I will provide you with mineral fertilizers. This will help you reduce sowing areas. As soon as you have your own cereal crops, you will be able to develop cattle-breeding, too. And by the way, the arrangements you will develop must cover the objectives to boost cattle-breeding as well” (Chatanava, 2015, pp.67-68).

Consequently, on October 5, 1950, the Board of Ministers of the USSR adopted Resolution “On the measures to boost wheat production, further increase in the heads of livestock and poultry and improve productivity of public cattle-breeding in the Soviet Republic of Georgia” (Chitanava, 2015, p.68).

In 1945, a Food and Agriculture Organization of the United Nations (FAO) was established to assist the population in critical situations of food provision. In 1974, the UNO adopted Resolution “International obligations to provide food safety in the world.” Besides, world food safety meant the maintenance of the stability of access to the basic foodstuffs for all countries. The given organization cooperates with Georgia and has been implementing relevant projects since 1995. Despite this, according to TNW (Thenexweb, 2019), presently, 744 million of 7,5 billion people of the world are starving.

The past century showed a quite heterogeneous picture of food provision of the population and living standards. One of the reasons was a significant decline in the production and consumption indices from 1976 through 1990 all over the USSR, which is clearly seen in the table below.

Table 1. Average annual increase rates of economic indicators in the USSR (%)

Indicator	1976–1980	1981–1985	1986–1990
Gross National Product	4.8	3.7	2.4
Aggregate national income	4.3	3.2	1.3
National income used for consumption and collection	3.8	2.9	1.7
Basic production assets	7.4	6.4	4.8
Industrial production	4.4	3.6	2.5
Agricultural production	1.7	1.0	1.9

Source: Gabidzashvili, 2006, p.10.

Food safety problems in the period since Georgia regained its independence

At the initial stage of restoring the independence of Georgia, the problems of increasing poverty and poor food provision of the population aggravated further as a result of certain objective and subjective mistakes in the transformation of the economics of the country. Due to the systemic crisis of all branches of economy and agriculture in the first instance, the foodstuff production and consumption per capita decreased significantly, which is shown in the table below.

Table 2. Foodstuff produced per capita (kg)

Item	1990	1995	2000	2003	2008	2013	2015*
Cereals	122	109	91	169	108	108	115
Wheat	47	16	19	51	18	18	36
Corn	49	81	64	106	75	81	62
Potatoes	54	74	66	96	44	66	56
Vegetables	88	93	94	98	38	46	44
Tea leaves	92	7	10	6	1	0.74	0.57
Grapes	127	78	47	46	40	50	72
Meat	31	24	24	20	13	11	17
Milk (litre)	121	100	138	168	146	135	182
Eggs, pcs.	141	57	80	97	100	110	162

Source: Chitanava, 2015 p.81.

* www.geostat.ge

Based on the analysis of the given data, we can assume that in 2015, as compared to 1990 (for 25 years), there was a significant decline in the production of ten different agricultural products, except for potatoes, corn, eggs, and milk. In particular, the average annual rates of decline were: 19.1% for tea leaves; 2.8% for vegetables; 2.5% for meat; 2.3% for grapes; 1.1% for wheat and 0.2% for cereals.

It should be noted that as per the Recommendations of the World Health Organization, the recommended consumption of the basic food products is 2450 Kcal a day. Under Decree N111 of May 8, 2003 of the Ministry of Health and Social Affairs of Georgia, the rated calorific value of food consumption is 2300 KCal, i.e., 150 KCal less. In particular, the daily calorific norms for different products are as follows: 80 grams of meat (instead of 200 gr), 215 gr of milk (4.5 times less), 182 gr of vegetables (instead of 370 gr) and 55 gr of sugar (instead of 100 gr). On the other hand, under the same Decree, bread use rate is increased from 350 grams to 400 grams (Chitanava, 2015, p.83).

Table 3. Consumption rate of food products per capita (kg)

Production	1990	1995	2006	2012	2015	2016	2017	2018
Meat and meat products	36.4	12.5	16.4	26	37	37	37	37
Milk and dairy products	311.3	97.9	162	138	170	173	168	178
Eggs	140	66.1	60	99	146	148	150	158
Potato	37.3	26.7	44	52	50	52	50	49
Vegetables	81.1	60.8	55	55	54	60	56	56

Source: Chitanava. 2015, p.82.

As the analysis of the given data suggests, the indices of foodstuff consumption in Georgia by 1990 were much higher than those in 2000 and later. Moreover, these indices considerably fall back the rated parameters of the country, while on the other hand, the rated indices were reduced as compared to the indicators recommended by the World Health Organization, as we have already mentioned above. Therefore, the calculation of an integrated index of the provision of consumption of the basic foodstuff by the population in 2006–2015 is of particular interest. This indicator is calculated as follows²:

$$K_{\text{int}} = \frac{\sum_{i=1}^n K_i}{n}, \quad (1)$$

where:

K_{int} is an integral coefficient of the provision of food products consumption by the population;

K_i – the sub-index of the i^{th} factors;

n – the number of factors.

On its turn, the sub-index can be calculated with the following formula:

$$K_i = \frac{x_i - x_{\min}}{x_{\max} - x_{\min}} \quad (2)$$

Where:

x_i – the consumption of the i^{th} food products per capita by 2015;

$x_{\min}$ – the consumption of the i^{th} food products per capita by 2006;

$x_{\max}$ – the physiological norm of the i^{th} food products consumption.

As Table N3 shows, based on the listed products, let us calculate the given coefficient (2) for different foodstuffs:

$$1) \text{ Meat and meat products: } K_1 = \frac{37 - 16.4}{72 - 16.4} = 0.3705$$

$$2) \text{ Milk and dairy products: } K_2 = \frac{170 - 162}{350 - 162} = -0.0426$$

² “The search of modern methods for statistical quality control of services”. Vilniaus. Ekonomika 2017 Vol. 95(2). pp. 108-117.

$$3) \text{ Eggs: } K_3 = \frac{146 - 60}{241 - 60} = 0.3315$$

$$4) \text{ Potatoes: } K_4 = \frac{50 - 44}{61 - 44} = 0.3529$$

$$5) \text{ Vegetables: } K_5 = \frac{54 - 55}{135 - 55} = -0.0125$$

We have calculated the integrated indicator of the provision of the consumption of the basic foodstuff by the population based on the coefficients given above:

$$K_{\text{int}} = \frac{\sum_{i=1}^n K_i}{n} = \frac{0.3705 - 0.0426 + 0.3315 + 0.3529 - 0.0125}{5} = 0.19996$$

We made similar calculations for 2018 and obtained:

$$K_{\text{int}} = \frac{\sum_{i=1}^n K_i}{n} = \frac{0.3705 + 0.0851 + 0.5414 + 0.2941 + 0.0125}{5} = 0.26072$$

The calculations show that provision of the consumption of the basic foodstuff by the population has improved in 2018 compared to 2015.

The given data demonstrate that the foodstuff consumption indices show a high risk of food safety. The situation is further aggravated by the fact that the import of some products has a great share of the above-given indices of foodstuff consumption per capita.

We think that in considering food safety problems, the authorities of our country must pay more attention to improve the quality of both, the locally produced and the imported production.

Conclusion

So, there have been many problems in foodstuff production and consumption for most of the times of Georgia's social-economic development.

Recently, on the initiative of the government of Georgia, the strategies to develop the country's economy and its individual branches are being developed, which must be considered a step forward. The agriculture development strategy adopted for the period to 2020 often defines the major directions, but does not envisage specific goals (objectives) on what would reduce the risks of food safety (Chitanava, 2018, p.771-772).

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