January 2019

RICA Regional Institute of Central Asia

New Golden Age Initiatives

CURRENT STATE OF FOOD SECURITY IN CENTRAL ASIAN COUNTRIES

CURRENT STATE OF FOOD SECURITY IN CENTRAL ASIAN COUNTRIES

Contents

Abstract

Today the problem of food security is more important than ever before. This also applies to the countries of Central Asia, where the agrarian sector, having passed through a period of crisis in the region's transition to a market economy, is now experiencing growth and gradual development. This paper discusses modern approaches to the concept of “food security”, showing the distinctive features and level of the state process of ensuring food security in Central Asian countries.

Introduction

Ensuring food security is becoming a global problem in the 21st century, due to both the growing demand for food and the restriction of its supply. Ensuring food security is the most important goal of agri-food policy and is one of the main elements in any government's system of economic security. In modern economics, there are a diversity of approaches to defining “food security”, but no uniform understanding of this term. In this regard, it is necessary to define conceptual approaches to this concept.

Despite the fact that Central Asian countries are highly agrarian, they do not have high levels of food security, and in recent years there has been a downward trend. The goal of our research is to find effective ways to ensure food security in the context of globalization for Central Asian countries. The following criteria were set to achieve this goal:

- based on a study of the existing definitions of the category “food security”, justify conceptual approaches, and develop local actors' own understanding of this category;
- identify the features of food security in Central Asia;
- assess the level of food security of Central Asian countries;
- develop the main directions for the process of increasing the level of food security of Central Asia for the future.

Food Security Criteria and Levels

Aristotle can be considered as the founder of the first conceptual approach to food security. He singled out the concept of concrete labor that produces commodities as the main source of food security [1]. After all, people were consuming what they produced, so the main criterion for ensuring food security at that time was their own food production.

Further studies of food security categories have led to the selection of new criteria. Many scientists have begun to specify the sources of providing populations with food: whether it is from domestic production or from food imports from other countries. This problem arose due to a number of developed countries appearing in the world economy: using the advantages of international specialization of production, they found it possible to support their populations with food products from other countries, which they acquired due to high incomes from other sectors of the economy.

Consequently, criteria of countries' food security began to be divided into self-sufficient countries, which support their population with domestic food production, and countries that rely on food imports. The distinction between these two types of countries leads to the need of a new criterion - independence from food imports, which is extremely important for many underdeveloped countries that do not have the income to purchase the necessary food.

In 1980s, the "green revolution" caused an increase in the capacity of food production in the world. Therefore, food shortages and malnutrition in developing countries have been caused by a sharp decline in purchasing power of certain socially vulnerable groups of the population, rather than by a decline in the capacity of food production. In this regard, based on scientific research of a number of scientists and specialists, the definition of food security was broadened to include both physical and economic access to food. This concept was approved by the Committee on World Food Security (CFS) in 1983 (during the second world food crisis), which states “food security is achieved when all people always have physical and economic access to the main types of food in the quantity necessary for them.” [2].

The critical conception of food security as including food safety begins to take shape later on. In pursuit of increased profits, entrepreneurs began to increase the yield and productivity of agricultural products, without consideration of the quality and usefulness of the products or their potential negative impacts on the human body. The negative consequences of the consumption of poor-quality food products, which have become widespread in the last few decades, have led to the need to introduce product quality standardization.

The concept of "nutrition safety" arose in the mid-1990s through UNICEF and the World Health Organization (WHO) and refers to food consumption at the household or individual level. It was proposed to be "the proper level of nutrition in terms of protein, calories, vitamins and minerals for all household members at any time." [3]. In the Declaration of the World Food Summit in Rome, a new definition was formulated, taking into account modern conditions: "Food safety exists when all people at any time have physical and economic access to a sufficient number of safe and nutritious foods that allow them to satisfy their nutritional needs and preferences for maintaining an active and healthy lifestyle." [4].

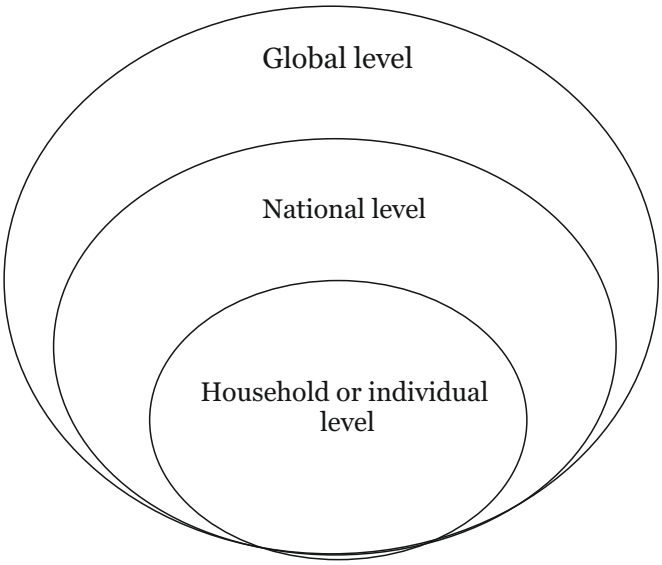
At the same time, in the 2000s, on the basis of combining the concepts of "food security" and "nutritional safety", which deal with the same issue from different sides but have the same approach, a new concept appeared, commonly defined as "food security and nutrition." Since 2009, this term has been used in all documents of international organizations (CFS, FAO, and others) as one of the main strategic objectives. By 2011, FAO had defined the term as follows: "Food and nutritional security exists when all people at all times have physical, social and economic access to food in the right quantity and quality in terms of diversity, nutrient content, safety to meet their nutritional needs and preferences to maintain an active and healthy lifestyle combined with proper sanitary conditions, an appropriate level of health, education and medical care " [5].

Today, the term "food security and nutrition" is more commonly used to distinguish between actions required at

the global, national, household or individual levels. The current understanding of this category, in our opinion, should reflect the system of production relations, which are designed to ensure that food meets such criteria as the security and availability of quality food for each individual, regardless of his income level, place of residence, race, nationality or gender.

We agree with the opinion of V. Korovkin on the need to single out three main hierarchical levels as follows on ensuring food security [6].

- Global level (international);
- National level (domestic economy/market);
- Household or individual level;



Picture-1. Hierarchy of Food Security Levels

In our opinion, each hierarchical level should have its own criteria for determining food security. After all, each level of the hierarchy must solve fundamentally different problems: each level has different goals. For a global or international level of food security, the most important task is the need to produce such a volume of food that is enough for all the inhabitants of the planet. An equally important task is the need to provide emergency reserves that will be needed by the world's population in the event of natural or other disasters.

The main criteria for ensuring national food security or a country's security are the volume of domestic production of basic types of food (80-85%), the provision

emergency reserves in case of unforeseen events (17% of annual consumption), imports and exports of basic foods (no more than 15–20%), and the economic affordability of food for the inhabitants of a country.

Moreover, physical and economic accessibility and the issue of food quality are the criteria that are critical for the household/individual level. Nutrition safety is a major factor in ensuring food security at the household/individual level, and this indicator can be fully understood only by considering the analysis of global, national and individual levels. Human health is associated with food safety, which, in

Classification of Countries by Food Security Features

An important factor predetermining the difference in conceptual approaches to understanding the food security of different groups of countries is the socio-economic characteristics of their development. World practice shows that conceptual approaches to ensuring the food security of a state depend on the level of the agricultural potential of that country. Whether or not a country is food secure is dependent on the climatic, economic, political and traditional features of the area, and these features also dictate the most effective potential ways to ensure food security. Thus, on the basis of world practice in the field of food security it is possible to classify three groups of countries according to levels of food security.

1) Countries actively exporting food (USA, Canada, New Zealand etc.);

2) Countries experiencing food shortages due to low land availability, but able to purchase them at the expense of another sector of the economy (Japan, South Korea and others);

3) Countries experiencing food shortages due to low income levels, but able to produce them through domestic production (Central Asian countries and others).

The main factor in ensuring the food security of a country is the area of agricultural land. Thus, the availability of sufficient land (land supply) per capita is one of the most important indicators of the agricultural potential of any country.

USA	0,47
Canada	1,22
New Zealand	0,13
Japan	0,03
North Korea	0,03
Kazakhstan	1,68
Kyrgyzstan	0,21
Tajikistan	0,09
Turkmenistan	0,35
Uzbekistan	0,14

This table shows that the area of agricultural land in Central Asia, Canada and the United States is larger than in other countries. Japan and South Korea have smaller areas of agricultural land, and therefore the level of food production per capita in these countries is substantially lower.

Table-2 – Food production per capita, kg / year [7]

Food production	USA	China	Japan	South Korea	Kyrgyzstan	Production rate kg / year
Bread and bakery products	173	84	6	1	148	115
Potato	62	63	19	13	255	105
Sugar	83	8	28	0	29	40
Meat and meat products	135	56	25	37	35	80

**Compiled by the author on the basis of data [7]*

As we can see from the tables, economically developed countries such as Japan and South Korea do not have sufficient land resources, but they can afford the food they need from neighboring countries and are able to build strong and economically beneficial import relations with them. They receive the necessary funds for this purpose by exporting industrial products that are competitive and vital for neighboring countries. Also, these countries achieve food security on the basis of tough protectionist measures, fully meeting the needs of their people with the main food staple-rice. At the same time, they receive other types of food products they need from other countries in exchange for the innovative types of industrial products that are vital for those countries that do not produce them and which they cannot obtain in any other way. Consequently, Japan and South Korea guarantee their population the physical and economic provision of necessary food at the expense of other sectors of the economy.

Many developing countries (including Central Asian countries), cannot earn enough funds at the expense of other industries due to those industries being underdeveloped, and are thus deprived of this opportunity. The economies of

many developing countries are traditional, with a high proportion of the economy based in agricultural production. For example, in the developed countries in 2017, the share of agriculture in GDP was in the range of 1-5%, while in the countries of Central Asia it was 13-20%.

Table-3 – Share of agriculture in GDP and the level of employment in agriculture by country [8]

Countries	Level of employment in agriculture/ rural (%), 2017	Share in GDP (%), 2017
USA	2	1
Canada	2	1,4
New Zealand	7	5,49
Japan	3	1,15
South Korea	5	2,2
Kazakhstan	18	4,7
Kyrgyzstan	27	13,8
Tajikistan	52	21,1
Turkmenistan	-	13,4
Uzbekistan	22	19,2

**Compiled by the author on the basis of data [8]*

As world data shows, the average percentage of the population employed in agriculture is 68% in all underdeveloped countries [9]. At the same time, supporters of the new concept of economic development believe that the high level of employment in agricultural production - from 40 to 70% or more of the total can serve as an indication of a country's poverty. As an illustration: the level of agricultural employment in Tajikistan was 52% in 2017, in the countries of East Asia, in particular Japan and South Korea, it was 3-5%, and in countries that export food (USA, Canada) it was only 2%. This indicates that, according to the criteria of the concept of economic development, Tajikistan is among the poorest countries among the Central Asian states.

If you look at the level of economic affordability in terms of food security in Central Asian countries, the World Bank data gives the following results:

Table 4 –Share of food expenditures and poverty rate by countries [8]

Countries	Poverty rate, %	Share of food expenses, %
USA	12,3 (2017)	6,5 (2014)
Canada	13,9 (2017)	9,6 (2014)
Japan	-	13,5 (2014)
South Korea	-	13,2 (2014)
Kazakhstan	19 (2017)	45,9 (2017)
Kyrgyzstan	25,6 (2017)	49,9 (2017)
Tajiksitan	29,5 (2017)	55,01 (2017)
Uzbekistan	-	47,3 (2016)

**Compiled by the author on the basis of data [8]*

According to a study of experts in the field of food security, the poverty rate and a high level of expenditure on food are indicators that negatively affect the level of economic accessibility in the population's food security. In the economic literature, Engel's law states that a significant increase in household income leads to a decrease in the share of food expenditures. [11].

The poverty rate in Central Asia was 19-29.5% in 2017, but in developed countries this indicator was 12-14% (USA, Canada). Whereas the share of food expenditure in the countries of Central Asia is above 40%, it is less than 13% in rich countries. In this regard, our analysis suggests that richer countries spend a smaller part of their income on food. This means that the income of the population of Central Asian countries is low - the share of food spending in Tajikistan in 2017 was 55.01%, in Kyrgyzstan - 49.9%, in Uzbekistan - 47.3%, in Kazakhstan - 45.9 % [12]. (see table-4) It should be taken into account that their national budget is under strain. In this regard, developing countries have no other alternative than to ensure the production of the food products they need on their own territory.

The approaches of countries like the USA, Canada and New Zealand to ensuring food security are export-oriented. Countries that have chosen such a way to ensure food security necessarily have sufficient natural resources and favorable climatic conditions for agricultural production.

Thus, the main difference between the approaches of different groups of countries lies in the levels of economic development, in the agrarian potential, and in the availability of agricultural resources and climatic conditions for the agrarian development of countries. In Central Asia, land resources are sufficient to ensure food security through domestic production.

Food Security Assessment in Central Asia

Today, the problem of ensuring food security in Central Asia is significantly acute. Central Asian countries have recently gone through the process of establishment and formation of a market economy, a complex phenomenon that includes many components. The agricultural sector has witnessed crisis during this transitional period into a market economy; now it is going through a period of stabilization, a period of gradual growth and development.

The foundation of economic entities in the transitional period of Central Asian countries has not yet been completed. The process of adaptation to new economic conditions is underway, resulting in the lack of competitiveness of private agricultural enterprises, small marketability of rural production, poor development of knowledge and technologies for growing crops, import dependence on food, underdevelopment of wholesale purchasing, supply structures, laboratories for standardization and certification of products, etc. In the first stages of establishment of a market economy, the economic structure began to change rapidly in the direction of increasing the role of small peasantry and individual households of the population.

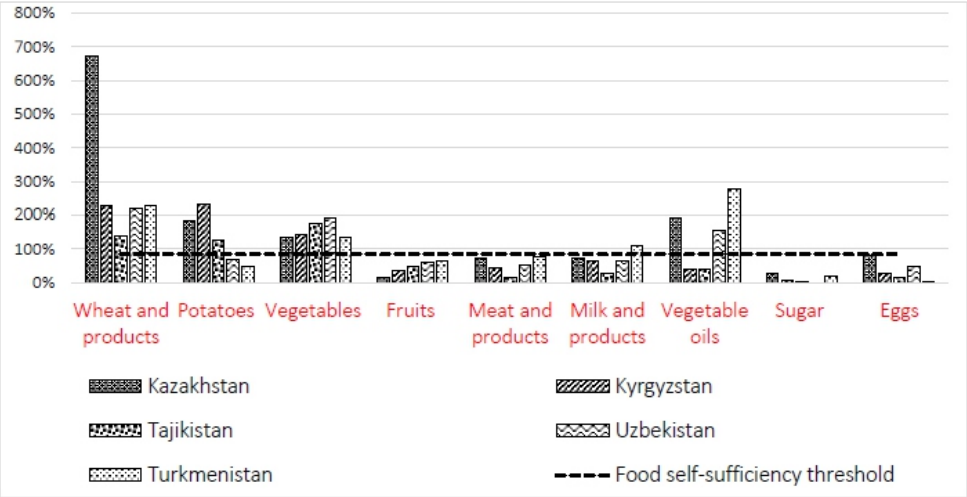
Today, the share of large and collective farms in the structure of agricultural production is declining, but, at the same time, the share of private farms is growing drastically in Central Asia. In 2017, the share of large and collective farms was 6% in Tajikistan and Uzbekistan, in Kyrgyzstan it was 1.7%, and in Turkmenistan it was 0.07%. The weak development of large agricultural businesses in the context of globalization indicates the weakness of the country's economy. In Central Asian countries, most private agricultural producers find it difficult to produce competitive agricultural products; therefore, in these countries, there are threats to food security, such as a high proportion of food imports.

Table 5 - Structure of agricultural production by categories of farms in Central Asia, in % for 2017 [11]

Name	KZ	KG	TJ	TR (2011)	UZ
All categories of farms	100	100	100	100	100
Agricultural enterprises	24	1,7	6	0,07	6,2
Peasant or farm households	28	63	30,6	0,2	6,3
Population/household	48	35,3	63,4	99,6	87,5

** Calculated and compiled by the author based on the data of [11], [12], [13], [14], [15].*

In independence, a country should provide the staple food products at minimum consumption rates. Despite the fact that agriculture occupies a significant share in the economy of the countries of Central Asia (13-20% in the GDP structure and 18-52% in the number of employees), the level of provision for some types of products remains low. (see table-3)



Picture-2. The level of self-sufficiency in basic foods in Central Asia [7]

A comparative analysis shows that Kyrgyzstan and Tajikistan cannot bring the production of vegetable oil to the required self-sufficiency standard; they are highly dependent on external markets. Currently, Kyrgyzstan and Tajikistan are dependent on imports of vegetable oil - in 2017, 8.5 kg of vegetable oil was imported per capita in Tajikistan, and 13.4 kg in Kyrgyzstan.

(Calculated by author based on the data of [12], [13]). As for per capita sugar production, its physical accessibility in Central Asian countries is also very low (see Figure-2). In this regard, Central Asian states are dependent on imports.

Table-6: Consumption of main types of food per capita in Central Asian countries in 2017, kg / year [15]

Name	KZ	KG	TJ	UZ	Medium rate of consumption of basic foods, kg/year
Bread and bakery products	133,68	120,59	159,6	-	115,4
Potatoes	46,89	41,85	40,8	56,4	98,55
Vegetables and gourds	88,53	78,98	177,6	277,2	114,25
Fruits and berries	64,58	24,85	39,6	148,8	123,74
Sugar and pastry	41,34	12,39	13,2	32,4	25,55
Meat and meat products	72,93	20,77	14,4	44,4	61,3
Milk and dairy products	237,74	79,25	66	279,6	200
Eggs (pieces)	168,47	67,88	84	213,6	182,5
Vegetable oil and other fats	19,53	11,58	16,8	24	9,13

** Calculated and compiled by the author based on the data of [11], [12], [13], [14], [15].*

The data in the table indicates the significant deviations from the mean physiological norms of basic foodstuffs consumption in almost all Central Asian countries, meaning that consumption of the main types of food (especially in Kyrgyzstan) is unbalanced: the majority of the main products are consumed in much smaller amounts than regulations recommend.

In Tajikistan, only two indicators - bread and bread products, and vegetables and melons - were higher than the average norms. This means that main types of food in Central Asia, specifically in Kyrgyzstan and Tajikistan, are not economically available.

Only in Uzbekistan are food consumption indicators so slightly below the average norm that deviations here are not so significant.

The only thing that meets the average physiological norm and even exceeds the actual figures in all countries of Central Asia is the consumption of bread and bread products. At the same time, there is a growth trend in meeting the demand for some types of food mainly due to imports.

Table 7 – Food imports in Central Asia, in thousand tons [16]

Countries	Wheat and wheat products		Meat and meat products		Sugar	
	2013	2017	2013	2017	2015	2017
Kazakhstan	46,4	60,4	221,7	198	459,3	499,5
Kyrgyzstan	389,8	323,2	57,9	27,7	79,9	55
Tajikistan	829,8 (2014)	1040,6	74,8 (2014)	48,9	148,9	125
Turkmenistan	34,8	20,4	35,2	28,07	24,7	103,6
Uzbekistan	781,4	1764,7	42,2	20,5	16	170

** Compiled by the author on the basis of data [16].*

As we see in table 7, compared to 2013, imports of wheat and wheat products almost doubled in Uzbekistan and Tajikistan. There is a steady growth trend in sugar imports in Kazakhstan, Turkmenistan (4 times) and Uzbekistan (10 times).

In Central Asian countries, bread and bread products are produced in sufficient quantities, and their level of self-sufficiency reaches the threshold value, but the populations of Kyrgyzstan, Tajikistan and Uzbekistan consume little wheat produced domestically due to its low quality. Wheat produced in these countries has lower gluten content than imported wheat varieties. Wheat grown by domestic producers is mainly used as livestock feed, and part is exported to Afghanistan. For production of bakery products, enterprises mainly used wheat imported from Kazakhstan.

Table-8: Export of wheat and wheat products to Central Asia from Kazakhstan, thousand tonnes [17]

Importing countries	2015		2016		2017	
World	3635,8	0,42	4448	0,43	4256,3	0,42
Central Asia	2536,8	0,29	2935,4	0,28	2964,8	0,29
Uzbekistan	1322,5	0,15	1671,6	0,16	1686,7	0,17
Tajikistan	852,3	0,10	1019,5	0,10	1051	0,10
Kyrgyzstan	361,1	0,04	244,3	0,02	227,1	0,02
All	8709,4	1	10318,8	1	10186	1

** Compiled by the author on the basis of data [16].*

Kazakhstan takes 11th place in ranking of the largest exporters of wheat in 2017. As noted, in terms of grain exports, Kazakhstan is the leader among the countries of Central Asia. The dynamics of grain exports from Kazakhstan to the countries of Central Asia is gradually increasing. In 2017, the share of grain exports amounted to 29%.

The level of food security in the region according to Food and Agriculture Organization (FAO) is estimated as follows - in 2016, Kyrgyzstan, Tajikistan and Uzbekistan were included in the list of countries with low income and food shortages [18].

FAO is guided by three criteria which determine a country's inclusion on the list of countries with low income and food shortages. The first criterion is per capita income set by the World Bank. The second criterion is based on the country's position in food trade: that is, the volume of exports must exceed the volume of imports of the main types of food. The third criterion is self-exclusion - states that meet the two criteria listed above may apply to FAO with a request to exclude them from the list of countries with low income and food shortages.

In addition, in economics there is such a methodology for assessing food security, known as global index of food security - GFSI (Global Food Security Index). The Global Index considers key factors related to indicators such as physical and economic accessibility of food products, as well

as their quality and safety. These categories include 28 indicators. The index analyzes the indicators of 113 countries [19]. If you try to collect the results of the GFSI assessment with indicators in one table, it will look as follows (Table 9).

Table-9: Global Food Security Index by Country [20]

Overall rating				**1) Affordability**			**2) Availability**			**3) Quality and safety**		
Place		Rating / 100	.	Place	Price / 100	Δ	Place	Price / 100	Δ	Place	price / 100	Δ
1	Singapore	85,9	**+0,9**	1	94,3	**+0,6**	15	81,0	**+1,5**	24	78,1	-0,2
57	Kazakhstan	57,7	**+1,8**	46	65,5	**+0,2**	79	50,5	**+3,8**	55	58,3	**+0,5**
80	Uzbekistan	45,9	-0,6	79	42,4	-0,1	86	48,7	-1,5	81	47,0	-5,4
91	Tajikistan	40,7	**+1,0**	84	37,4	-0,1	103	42,9	**+1,6**	88	42,6	**+1,8**
113	Burundi	23,9	-1,4	111	14,7	0,0	113	30,0	-2,7	103	30,6	-1,0

** Compiled by the author on the basis of data [18].*

In 2017, in overall ranking of 113 countries, Kazakhstan ranks 57th, Uzbekistan ranks 80th, and Tajikistan ranks 91st. Compared with the previous year, the overall assessment of Kazakhstan increased by 1.8 points and Tajikistan by 1 point, while the figure in Uzbekistan decreased by 0.6. The place of Tajikistan in the category of "food availability" is almost last place among all countries. The biggest change in Uzbekistan was the decrease in the quality of food safety (-5.4).

Thus, our analysis suggests that the main problems of ensuring the food security of Central Asian countries are the following: small-scale commodity; lack of basic foodstuffs from domestic production; high proportion of food imports; low income level; an increase in low-quality staple food.

Conclusion

Theoretical and analytical study of the problem of food security of Central Asian countries allows us to draw the following conclusions.

1. The main task facing the economies of Central Asian countries is the need to increase the volume of staple food produced through domestic production, and the need to consolidate agricultural structures, which will increase their level of food security.

2. Conceptual approaches as security, self-sufficiency, access (economic, physical, social), and food safety are required to find solutions for food security.

3. Based on a review of theoretical foundations of food security, the understanding of "food security" was clarified. The current understanding of this category should reflect the system of production relations that can ensure that food meets criteria such as security and availability of quality food for each individual, regardless of his income level, place of residence, race, nationality, or gender.

4. Study of characteristics of food security in Central Asian countries made it possible to determine that land resources are quite sufficient to ensure food security through domestic production, taking into account the low income of population.

5. In 2016, an assessment of the state of food security in Central Asia according to the FAO methodology yielded the following results: Kyrgyzstan, Tajikistan and Uzbekistan were in the list of countries with low income and food deficit.

6. According to GFSI methodology in 2017, Kazakhstan ranked 57th out of 113 countries, Uzbekistan was 80th, and Tajikistan 91st.

7. The main problems of food security in Central Asian countries are following: smallholder farming; lack of basic foodstuffs from domestic production; high proportion of food imports; low income level; an increase in low-quality food.

Recommendations

The first and main consists of increasing the production of basic types of food through domestic production. World practice shows that this is solved through government procurement prices, tax and credit benefits, agricultural subsidies, foreign trade regulations, as well as structural programs.

It is necessary to use the experience of Japan, where the government has set public procurement prices higher than in world markets to stimulate private producers in agriculture and increase the volume of basic types of food. For example, rice was 8 times more expensive than abroad, beef - 3 times, milk - 40%. In general, the average price of food in Japan was 12–20% higher than the world average. The cost of food there is the highest in the world. [19].

In addition, the Japanese government uses restrictive quotas against imports, allowing imports only of those products that are either not produced at all in the country, or produced in such small quantities that their import could not affect the production of domestic products, or if domestic products could withstand competition from them. Thus, the import of rice in Japan is actually prohibited [20].

In China also the government has already begun to support farmers with subsidies on agricultural crops in order to raise and stimulate for cultivation of agricultural crops. The main forms of subsidies include direct payments for grain producers, as well as subsidies for the purchase of varieties of high-quality seeds, high-yielding crops, the best breeds of animals, large machines, and equipment [21].

In South Korea, crop producers are stimulated differently. Agricultural corporations play a key role, the goal of which is to increase the size of farmers' land in order to improve productivity and rural income through savings from increased production and consolidation of farmland. The corporation provides economic support and credit

benefits to farmers who were fully engaged in the production of rice, the expansion of arable land, the purchase of farmland and leases. As a result, the average land size of a farmer increased from 2.2 ha to 4.3 ha [22].

I assume the Japanese and Chinese options with purchase prices and agricultural subsidies are appropriate for Central Asian countries as well, although here we must take into account that Kyrgyzstan, Tajikistan and Uzbekistan are not currently able to implement these reforms due to the limited financial resources in the budget. As for the South Korean option, this experience is also possible to apply in the countries of Central Asia. It is necessary to stimulate agricultural producers by increasing the availability of credit resources. It is possible to provide preferential loans to those farmers who are fully engaged in growing crops in an area of over 10 hectares.

The small size of farmers' land in Central Asia is due to low productivity and small-scale commodity production. Under the existing system of land distribution, one farm has an average of 2.5-5 hectares of land. This is calculated by the author based on data from the National Statistics Committee of Central Asian countries. In order to increase the production of main types of food in Central Asia, a structural program aimed at consolidating agricultural enterprises is required.

Modern practice shows that the most effective instruments for the consolidation of small private entrepreneurs are cooperation, specialization, and coordination. At the same time, there are cooperatives in Central Asian countries, but they are still inefficient. The cause of this inefficiency is associated with the negative experience of a centrally planned economy, the lack of clear goals in their activities and the reluctance of entrepreneurs to support cooperatives.

Each producer in Central Asian countries must keep in mind that a cooperative is always subordinate to the chief who dictates what and how will be planted, at what price it will be sold, and so on. There are no positive experiences of

cooperatives in Central Asia. Consequently, there should be possible directions for the integration of small entrepreneurs in the countries of Central Asia. First of all, it is necessary to start with a new, modern approach to the formation of cooperatives, the old stereotype of producers (such as submission to the leader) should be eliminated. World experience shows that this problem can be solved by combining or consolidating enterprises and farms. New Zealand can provide an illuminating example. In the second half of the 1970s, New Zealand pursued a strong protectionist policy aimed at protecting the manufacturing industry, strict quantitative restrictions were imposed on imports, the interest rate was brought under control, and the exchange rate was fixed.

In support of this plan, the government issued compensation payments to farmers in the event of natural disasters. But in 1985, the New Zealand government abolished the measures of state support for agriculture due to a sharp increase in the external debt of the state. This led to a drop in the incomes of the farming sector, to the increase of unemployment rate in rural areas, to the increase of interest rates on loans, to the fall of prices for main products of New Zealand agro-food exports. The possibility of supporting for farmers worsened, the value of land fell. However, New Zealand farmers managed to get out of such a difficult situation. This was done with the help of farmers' associations through the creation of councils (Boards) on agricultural crops for export. They were largely independent of the government and played a significant role in the organization of exports. This happened in a short period of time; after three years, farmers emerged from the economic crisis. Employment in agricultural production recovered, and agri-food exports increased by 63% from 1985 to 1989 [23].

In Kansas, USA, for instance, several large farmers (each of which has an average of 500 hectares of arable land) organized a service — a cooperative called Farmland. At the expense of farmers' contributions, they hire 3 employees (for a small fee), who keep informing and providing farmers with everything they need. For example, they provide the farmers with the latest and most modern technologies for growing crops and supplying seeds and fertilizers. In addition, they are also involved in organizing the provision of farmers with veterinary services, the repair of agricultural equipment and the delivery of farmers' products to procuring and processing enterprises. The US government is very interested in this and therefore allocates money to an agricultural experimental station and Kansas State University to develop technology innovations. At the same time, the experimental station and the university transfer their projects to farmers free of charge through the staff of the cooperative Farmland [24]. All actors remain independent. In this practice, the cooperation is not the boss; they have no land merger which means the cooperative serves the farmers. The cooperative does everything the farmers need: infrastructure, technology, and there are agreements between farmers and cooperative based on coordination. However, experiences of the cooperative movement in European Union are completely different, though the principle of independence is the same. In these countries, each manufacturer is a participant in four (on average) highly specialized cooperatives: one cooperative is engaged in repairing equipment, another is providing with supplies seeds, the third sells products, and so on [25]. In this matter, cooperatives in the European Union differ from those in the United States. This is because farmers in European countries have less land than those in the US.

For example, in Denmark, every farmer, whose land size is on average 40 hectares, may belong to one or several cooperatives. In this country, farmers are highly specialized, meaning that the individual farmer is engaged in one branch of agriculture, such as cattle, pig breeding, poultry, or crop production.

Cooperatives perform the functions of production, processing, sales of products on the domestic and foreign markets, as well as provide farmers with agricultural equipment, fertilizers, fodder, seeds, fuel, lubricants, and other types of services. As a result, 80% of all agricultural products are processed and sold through cooperative organizations, with the result that cooperatives in Denmark play a large role in ensuring the food security of a state [26].

Cooperation plays an important role in the consolidation of small farmers in countries of Southeast Asia. In these countries, such an organization is called an association. In many countries of East and Southeast Asia (Taiwan, Thailand, the Philippines, South Korea, Japan, etc.), farmers use the well-established Japanese system "One Village, One Product". This movement was developed in 1961 in the small mountain region of Oyam in Japan in order to consolidate small farmers and develop this rural area [27]. At that time, due to the unfavorable geographical conditions in the Oyama highlands, the land area of each farmer was very small and the income level of each farmer was low, leading to, many young people leaving the Oyam region (only people of retirement age remained) and left for the city to look for work [28]. Thanks to the positive results of the Japanese system "One Village - One Product" in Oyama, this movement began to spread in the neighboring countries of Asia, including Africa and Latin America. In Taiwan, for example, there are several dozen farmers whose land size ranges from 0.5 to 1 hectare. Several dozen farmers create an association and hire employees who organize the provision of all infrastructure services.

That is, hired employees serve farmers. As we can see, the experience of successful countries is that government intervention plays a huge role in uniting farmers. At the same time, each country develops its own system for uniting farmers and applies various suitable tools, taking into account all the possibilities and features of this area.

Bibliography

1. Михайлушкин, П.В. Элементы, компоненты и критерии обеспечения продовольственной безопасности страны [Электронный ресурс] / П.В. Михайлушкин // Политемат. сетевой электрон. науч. журн. Кубан. гос. аграр. ун-та. – 2013. – № 92. – С. 84-99.
2. Продовольственная безопасность: термины и понятия [Текст]: энцикл. справ. / В.Г. Гусаков, З.М. Ильина, В.И. Бельский и др. Минск: Белорус. наука, 2008. 535 с.
3. Committee on World Food Security [Text]: thirty-seventh ses. CES: 2011: Final report. – Rome, 2011. – 39 p.
4. Римская декларация по всемирной продовольственной безопасности (13 нояб. 1996 г.) [Электронный ресурс] // World Food Summit WFS 96 3. Corr. 1. – Rome, 1996.
5. ФАО/АГН (ноябрь 2011 года). Заключительный доклад: Оценка роли и деятельности ФАО в области питания. Управление оценки ФАО, MB663. 108-е совещание Комитета по программе и Движения ООН в целях повышения уровней питания (САН).
6. Костенко, А.В. Особенности рынка сахара [Текст] / А.В. Костенко // Сахар. – 2002. – № 6. – С. 14-18.
7. FAOSTAT [Электронный ресурс] / FAO's corporate database - Режим доступа: http://www.fao.org/faostat/en/#home , свободный. — Загл. с экрана.
8. База статистических данных Всемирного Банка, 2018 [Электронный ресурс] - Режим доступа: https://data.worldbank.org/ , свободный. — Загл. с экрана.
9. Мусаева, Дж.А., Бекболотова С.М. Парадигма устойчивого развития в условиях глобализации [Текст] / Дж. А Мусаева., С.М. Бекболотова – Бишкек: 2008. – 411 с. С-53.

10. Продовольственная безопасность (в мире и в России). М.: Памятники исторической мысли, 2011. – 286с.
11. Агентство РК по статистике [Электронный ресурс] - Режим доступа: http://www.stat.gov.kz , свободный. — Загл. с экрана.
12. Национальный статистический комитет КР [Электронный ресурс] - Режим доступа: http://www.stat.kg , свободный. — Загл. с экрана.
13. Агентство по статистике при Президенте РТ [Электронный ресурс] - Режим доступа: http://www.stat.tj , свободный. — Загл. с экрана.
14. Государственный комитет Туркменистана по статистике [Электронный ресурс] - Режим доступа: http://www.stat.gov.tm , свободный. — Загл. с экрана.
15. Государственный комитет по статистике РУ [Электронный ресурс] - Режим доступа: http://www.stat.uz , свободный. — Загл. с экрана.
16. International Trade Center. 2013 – 2017. [Электронный ресурс]. – Режим доступа: URL: www.intracen.org , свободный. — Загл. с экрана.
17. FAO, 2018. [Электронный ресурс] – Режим доступа: URL: http://www.fao.org/countryprofiles/lifdc/ru/ свободный. — Загл. с экрана.
18. The Global Food Security Index. 2018. [Электронный ресурс]. – Режим доступа: http://foodsecurityindex.eiu.com/. свободный. — Загл. с экрана.
19. Серова Е.В. Аграрная экономика / Е.В. Серова. М.: ГУ ВШЭ, 1999. 476 с. С.315-316.
20. Назаренко, В.И. Сельское хозяйство России и мировой продовольственный рынок [Текст] / В.И. Назаренко // Междунар. с.-х. журн. – 1998. – № 1. – С. 7-14.
21. Джим Пауэлл. Торговые барьеры и протекционизм. Опыт Аргентины, Индии,

Евросоюза и Японии. [Электронный ресурс]. - Режим доступа: http://www.inliberty.ru/library/321-torgovye-barery-inbspprotekcionizm . свободный. — Загл. с экрана.
22. Statistics Korea, [Электронный ресурс]. - Режим доступа: http://www.kosis.com, свободный. — Загл. с экрана.
23. Серова Е.В. Аграрная экономика / Е.В. Серова. М.: ГУ ВШЭ, 1999. 476 с. С. 313-314
24. Мусаева, Дж.А. Теория и практика экономики переходного периода [Текст] / Дж. А Мусаева. – Бишкек: Илим, 2008. – С. – 271. 411 с.
25. Кулькова, Н.С. Зарубежный опыт интегрирования и кооперирования в сельском хозяйстве [Текст] / Н.С. Кулькова // Вестн. Нижегород. гос. ин-та экон. Информации (НГИЭИ). – 2012. – № 3. – С. 81-93.
26. Дербичева, А. Государственная поддержка малых форм хозяйствования в Калужской области [Текст] / А. Дербичева, Н. Чаусов // Междунар. с.-х. журн. – 2009. – № 1.– С. 24-26.
27. One Village One Product - Rural Development Strategy in Asia: the Case of OTOP in Thailand [Электронный ресурс]: RCAPS Working Paper No. 11-3 / N. Kaoru, I. Kunio, W. Aree et al. – 2011. – P. 1-3. – Режим доступа: http://www.apu.ac.jp/rcaps/ . – Загл. с экрана.
28. Wahlin, W. One Village One Product: Japan's rural entrepreneurial scheme goes abroad [Text] / W. Wahlin, K. Natsuda // Japan Inc. – 2008. – Vol. 75, № 1. – P. 60-61.

Tokobaev Nurlan

PhD in Economics, Associate Professor at the Department of Economics and Commerce at the International Kuwait University, Representative of the Community Leaders International Program in Kyrgyzstan.

nurlan.tokobaev@gmail.com

REGIONAL INSTITUTE OF CENTRAL ASIA (RICA) ACCEPTS MATERIALS FOR ITS MONTHLY REPORTS AND QUARTERLY JOURNALS ON REGULAR BASIS.

For more information please contact
Public Affairs Coordinator Toktobek Omokeev

E-mail: t.omokeev@rica.network

Tel.: +996 (312) 88 22 01

Webpage: www.rica.network

RICA Regional Institute of Central Asia

What we do:

- Social issues
- Politics and security
- Economy
- IT and innovations

B/C «Maximum+»
st.Turusbekova 109/3,720001
Bishkek, Kyrgyz Republic
Tel.: +996 (312) 882 201
e-mail: rica.network@gmail.com
Website: www.rica.network