

Lecture Notes in Networks and Systems 574


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# Food Security of the Republic of Uzbekistan and Its State After the Pandemic

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**Abstract.** The intensive globalization of the world community attaches particular importance to the level of food provision of the state. Ensuring and protecting state vital issues in the field of food security is included in the problems of national security, and are especially important problems of today, which require detailed intervention to ensure the security of the state. The article touches upon such concepts as “food security”, “national security”, and many others. Food security is considered within the framework of the global economy, as well as within the framework of the Republic of Uzbekistan. In conclusion, the Authors reveal the main ways to maintain food security, despite the state of the economy after the pandemic.

**Keywords:** Food security · Uzbekistan · Pandemic · Agriculture · Economy · Supply · Global food security index

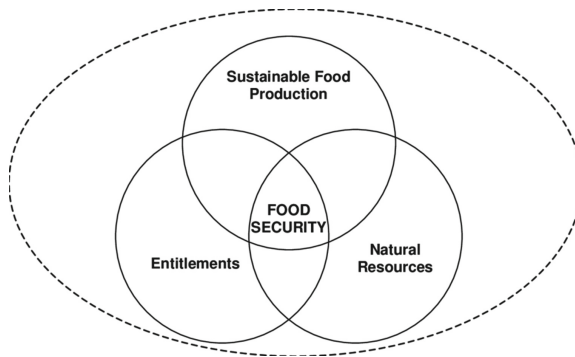
## 1 Introduction

Food security is understood as a multifaceted, multifactorial, complexly defined phenomenon. The main features of food security are to ensure the protection of critical issues for the life of the individual, society, state, from various threats, and resistance to them without losing their own quality properties. “Food security” itself, according to many literary sources, has a contradictory explanation, fixing attention on a certain feature, which in this case acts as the main criterion for food security. For example: access to food resources of the required quantity and quality; stability of food supply (in different contexts); competitiveness of the food production system; neutralization of risks by the state food system and functioning in any mode [1]. Food security is associated with factors such as natural resources, sustainable food production, entitlements (Fig. 1).

In 2018, a draft law “On Food Security” was released in the Republic of Uzbekistan, in which the concept of “Food Security” is interpreted as the state of the economy, where the food independence of the country is ensured and stable physical and economic access

of people to a sufficient amount of high-quality food products, which can meet their needs and preferences.

Food security is the main priority in ensuring the livelihoods of the population of the entire globe. In 1943, the first decision was made to create an organization that could unite all countries at the level of agriculture, 44 states became the founders of the Food and Agriculture Organization of the United Nations (FAO). The purpose of this organization is to ensure food security for the entire population of the world, and guarantee stable access to quality food products. More than 194 states are members of FAO. According to FAO, the food system is one that ensures food security for people without compromising the economic, social and environmental foundations for food security and future food supply planning. The food system has positive aspects in all areas, namely, it provides economic sustainability, the benefits come from social sustainability, and that gives a positive or neutral impact on the environment [2].



**Fig. 1.** Sustainable agriculture and food security.

The very combination of “food security” became official in 1974, at the World Conference on Food, which was organized by the FAO, in connection with the global food crisis. It was all connected with the world crises of the 1970s, in 1972 the production of world food was reduced, in 1974 due to unfavorable weather conditions in the leading countries in the production of agricultural products. In the countries of the world, food prices began to rise, then food security was defined as the constant availability of world stocks of basic food products to meet steadily increasing food consumption and offset fluctuations in production and prices. It was assumed that the formation of reserves that guarantee food security in various critical situations (local, national, regional), and also cover the needs of the world market (Fig. 2).

The global economy slowed down against the backdrop of the pandemic by 3% in 2020, this figure is even more than during the economic crisis in 2008–2009 - GDP then fell by 2.3%. [3, 4].

In the Republic of Uzbekistan, agriculture has always played a special role in the development of the country. In 2017–2019, the share of agriculture in GDP (2017 - 34% and 2019 - 28.1%) gradually decreased due to an increase in the share of industries and services. In 2019, the growth rate of agricultural production amounted to about 102.5%



**Fig. 2.** Food security.

compared to 2018. In 2017–2019, the total number of agri-food products increased by 1.5 times, of which crop production - by 1.3 times, livestock products - by 1.7 times.

## 2 Research Methods

In the study of the topic Food security, the authors used methods such as analysis, synthesis, deduction, grouping, statistics. And of course, the food security index.

One of the main methods is the method of observation, in which it is possible to observe the change in the dynamics of the growth of food security in the Republic of Uzbekistan.

## 3 Results

The pandemic that came unexpectedly all over the world affected all areas of the political state of countries, such as the economy, the social sphere, etc. With the onset of quarantine, the borders were closed, thereby disrupting the stable functioning of markets, food supply chains, including trade in them. This has all led to limited food availability, especially in virus-affected countries with high levels of food insecurity. The pandemic was a great opportunity for the risk of a food crisis.[5, 6].

The pandemic affected such areas of agricultural food as transport, storage, marketing, financing and availability of resources. They are distinguished from all spheres, the production and sales chain of fish products and fish, then the chain of production and sale of milk and dairy products, animal husbandry, cereals and legumes.

The transportation system suffered more damage because the roads were closed and drivers refused to work in such dangerous conditions. Because of this, transactions

of agri-food commodity distribution chains were disrupted, respectively, the sale of products was a big problem, since the market became unstable.

The countries of the world have realized the great importance of food security. Policies have been taken in the world, programs and national security strategies have been developed. Of the Central Asian countries, Kyrgyzstan, Tajikistan and Turkmenistan can be distinguished, in which the law on food security has been approved. In other countries, including Uzbekistan, the concept of “food security” is included in the national security program and in documents on the development of the agricultural economy.[7, 8].

On January 16, 2018, the Republic of Uzbekistan signed the law “On measures to further ensure the food security of the country”. The law prescribed the formation of specialized warehouses, storage facilities, cold stores based on the introduction of public-private partnerships, modern high-tech, energy-efficient equipment for the processing and packaging of agricultural products. Thanks to this law, during the pandemic, the agriculture of Uzbekistan was able to maintain food security in the country.

The Republic of Uzbekistan closely cooperates with FAO, which provides assistance to the Republic of Uzbekistan in such areas as:

- diversification of crop production systems and sustainable intensification of production;
- efficient methods of agricultural production;
- production of livestock products, the fight against animal diseases and beekeeping;
- development of aquaculture and fisheries in inland waters;
- rational use of natural resources.

But despite all this, the food markets were able to show resilience to the crisis, in relation to other industries. The problem of food security was the access of the population to healthy food, or to its sufficient quantity. There has been a noticeable slowdown in economic growth, especially in countries where unemployment rates and the economic impact of COVID 19 have increased.

Against the backdrop of the COVID 19 pandemic, many Central Asian countries have introduced new policy measures to secure adequate domestic stocks and avoid rising prices for important staple foods. Some of these measures include: permission for the distribution of food products, the issuance of agro loans and financial resources, the implementation of administrative price controls and market interventions, the provision of social support to vulnerable groups of the population for access to agricultural products, assistance in marketing, the development of new platforms for e-commerce.

In 2020, on average, about 768 million people were affected by COVID 19, which is 118 million more than in 2019. Most of the hungry are observed in Asia - 378 million people, and in Africa - 248 million [9, 10].

All countries are trying to unite as best they can. For example, in 2018, the Islamic Organization for Food Security was created, it includes 36 states, and 10 states are going to join. The organization was created at the suggestion of the first President of Kazakhstan, Nursultan Nazarbayev. The purpose of the organization is to ensure stable food security of the population through the socio-economic development of countries and the promotion of programs in the framework of agricultural development.

It is worth highlighting the Republic of Uzbekistan as one of the countries that was able to maintain the full power of its agricultural sector during the pandemic and prevent a disruption in food security. The measures that were organized during the quarantine period softened the economic downturn, and in spite of everything, led to an increase in the economic availability of food [11, 12].

The agriculture of the Republic of Uzbekistan is in constant motion. In 2017–2021 alone, the Republic of Uzbekistan adopted: 149 decrees, 185 resolutions of the President of the Republic of Uzbekistan and 183 government resolutions on the development of agriculture and reforms in the industry. In 2016–2020, a total of 330.5 thousand hectares of low-margin cotton and grain fields were reduced, due to the production of more highly profitable food products on these lands for the domestic market and exports. In this regard, in 2016–2020, the total volume of vegetables increased by 103%, potatoes - by 114%, melons - by 110%, legumes - by 3.6 times, oilseeds - by 240%, fodder crops - by 191%, fruits - by 107.4%, grapes - by 106%.

## 4 Discussion

One of the indicators evaluating food security is the Global Food Security Index, hereinafter referred to as GFSI. The GSFI was developed and is compiled every year by the Economist Intelligence Unit, which is sponsored by sponsors Corteva Agriscience.

GFSI, as an indicator, reveals the problems of accessibility, availability, quality and necessarily the safety of food, as well as natural resources, and its stability in more than 110 countries. The Food Security Index includes more than 59 specific indicators that help measure the strength of food security, not only in developed countries, but also in developing countries.

In 2019, according to GFSI (Fig. 3), Uzbekistan ranked 71 out of 113, in 2018 80 out of 113, in 2020 83, it is worth noting that in the Republic of Uzbekistan there are low food losses, food sector security, a low proportion of the population below the poverty line, programs on food safety, a low growth rate of prices for food products.



**Fig. 3.** Changes in the positions of Uzbekistan in the GFSI 2018–2021 ranking [3].



In 2019, GSFI changed the calculation methodology. According to the new methodology, the Republic of Uzbekistan has become the owner of both strengths and weaknesses in terms of food security, which can motivate the Republic of Uzbekistan to further development (Table 1).

**Table 1.** Parties allocated in the Republic of Uzbekistan, after changing the GFSI calculation methodology in 2019.

Old methodology	
<b>Strengths:</b> 1-low loss of food products 2-weak volatility of agricultural production 3-food safety 4-small proportion of the population below the poverty line 5 food safety programs 6-Low Food Price Growth Topics	<b>Sides to motivating development:</b> 1-small government spending on agricultural research 2-high level of corruption 3-low GDP per capita
New methodology	
<b>Strengths:</b> 1-food security programs 2-access to trace elements 3-low food loss	<b>Sides to motivating development:</b> 1-a large proportion of the population below the poverty line 2-strong agricultural production volatility

## 5 Conclusion

Thanks to the GFSI, you can see what indicators can harm food security and make suggestions accordingly [13, 14].

1. The water resources of the Republic of Uzbekistan are located in a zone that can damage food security. To improve this indicator, it is necessary to reduce the total annual water intake, reducing water losses at each stage. The main canals need reconstruction and innovation, thus they will increase the efficiency of irrigation networks, and introduce new irrigation techniques - drip irrigation, etc. At the moment, water losses have decreased in areas such as Samarkand, Navoi, Jizzakh.
2. Change in the average cost of food. Increasing the supply of food products on the local market will improve the food security indicator. Increasing domestic production of food products, increasing the growth rate of imports at an affordable price, these measures will allow the average cost of food. Also, measures to control price increases are recommended, this issue has become important after the pandemic period.
3. Development of agricultural research. With the development of agricultural research, and the selection of competent personnel, reliable, up-to-date data will be transmitted to world studies, which will make it possible to make adjustments and give proposals for the development of the Republic of Uzbekistan

4. Decline in the volume of agricultural production. It is necessary to take measures to increase the output of agricultural products. It is recommended to expand the introduction of clusters in grain production, for vegetables to expand production in heifer conditions, or growing them in closed ground, this will protect products from late frosts.

State support plays an important role. Food security has improved in recent years. On January 16, 2018, the President of the Republic of Uzbekistan signed the law “On measures to further ensure the food security of the country”, within the framework of this law, customs, tax and other benefits were canceled from February 1, 2018. The Decree proposes to create warehouses, pantries, storage facilities, cold stores in all regions of the country on the basis of public-private partnership.

All these measures will help ensure the food security of the Republic of Uzbekistan, and rise in the GFSI rating.

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