

RESEARCH ARTICLE

Covid-19 Pandemia in Uzbekistan Agriculture and its Impact on the Supply Chain

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ABSTRACT

This article describes the impact of the COVID-19 pandemic on the agricultural sector and food supply chain in Uzbekistan, theoretical aspects of the necessary measures to be taken to provide food to the domestic and foreign markets during epidemics, pandemics and quarantines. The article also provides the necessary recommendations for the widespread implementation of transformation processes through the digitalization of manufacturing enterprises while ensuring supply chains in accordance with the introduction of innovative technologies into the economy.

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Introduction

Agriculture is a sector that provides food to the population, and this sector is distinguished by its activities in the acquisition of raw materials for other sectors of the economy and industry. Also, agricultural and food products account for half of the country's gross domestic product.

Agriculture is one of the most important types of economic activity, it plays an important role in food production and sustainable provision of income to the population.

The short-term global spread of coronavirus infection and the COVID-19 pandemic have led to a deterioration in the socio-economic situation in almost all countries. This has certainly had an impact on key elements of supply and demand for agriculture and food, along with large and small businesses, industry, service import and export practices.

We can say that the prevention of the food crisis has been achieved as a result of rapid measures taken to stabilize the global food supply chains and reduce the impact of the pandemic on the entire food system. Adoption of the Resolution "On additional measures to ensure food security, rational use of available resources, state support of

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agriculture during the coronavirus pandemic" in our country serves to strengthen the supply chain of agricultural products to ensure the stability of food and agriculture [1].

Due to quarantine measures introduced in the countries during the COVID-19 pandemic, the agricultural economy was mainly affected by local disruptions in food supply and food supply systems and logistics activities in domestic markets [2].

Analysis of the Relevant Literature

On the food supply chain of agriculture and its impact on it, Russian scientists P. P. Krylatkov, M. A. Prilutskaya defined that "a supply chain is three or more economic units (organizations or individuals) directly involved in the external and internal flows of products, services; information from finance or source to the consumer" [3].

Russian scientists AN Trifuntov and VI Margunova say, "The supply chain is a network of partner organizations that jointly process primary raw materials and receive the finished product, which is evaluated by the end user. It consists of a series of organizational arrangements that involve the transfer of materials from primary suppliers to the end user." [4].

The Spanish scientist M.Mau in his research stated that "Increasing work efficiency, reducing costs and quality context lead to optimization of the supply chain" [5].

B. Tolipova, a researcher working in the country, said, "The state provides direct support to farmers by providing domestic investment, subsidies, anti-crisis funds, tax and credit vacations for the expansion and development of infrastructure, transport, processing industry, packaging industry. "It will reduce food waste." [6]

Analyzes from the above various sources suggest that effective solutions need to be developed to increase the efficiency of the food supply chain in times of crisis, pandemic and epidemiological situations.

Research Methodology

The article analyzes the impact of agricultural products grown, produced and processed in the food sector on the economy of the industry. During the COVID-19 pandemic, recommendations were developed to address aspects that affect food supply and to address the negative consequences they may cause. The analyzes were based on methods of scientific abstraction, observation, comparison, and literature review.

Analysis and Results

Agriculture and food industry are the main types of activities that truly meet the needs, demands and supply of the people, food security, industrial production and the stability of the country's GDP.

Due to the rapid spread of the COVID-19 pandemic around the world, the best way to prevent and combat the spread of the disease among people in countries was to introduce quarantine measures and limit social interactions between people. The introduction of quarantine restrictions

will result in some restrictions on the material needs of people. Only when necessary, grocery stores and pharmacies not far from the living area were allowed to leave the house in accordance with the established requirements and procedures for the necessary food and medicine for each family. Commercial, residential, entertainment and commodity markets have been suspended. This, in turn, has a serious impact on issues such as the sale and processing of food and agricultural products, exports.

However, agricultural production also achieved its economic growth even during the pandemic period (Table 1).

Table 1. Basic indicators of agriculture¹

Name	2019y	2020y	Percentage compared to 2019
Agricultural products bln. Soums (Included)	216283,1	249754,5	115,5
In agriculture	111904,8	123556	110,4
In animal husbandry	104378,3	126198,5	120,9
Produced products (thousand tons)			
Cereals and legumes	7437,8	7566,6	101,7
Potatoes	3089,7	3143,5	101,7
Vegetables (total)	10215,1	10459,5	102,4
Fruits and berries	2752,7	2864	104,0
The meat is in live weight	2 473,60	2 526,20	102,1

The table shows that during the pandemic in the Republic of Uzbekistan in 2020, the economic performance of agriculture had almost no effect on growth. Revenues from agricultural production increased by 115.5% in 2020 compared to 2019.

In recent years, the area under crops has been significantly expanded in order to provide the domestic market with quality products and increase the country's export potential by increasing food production.

Practical measures are also being taken to specialize the districts in fruit and vegetable growing, to unite producers into fruit and vegetable clusters and cooperatives.

However, the pandemic has had an impact on the share of exports of products produced and processed by businesses (Figure 1).

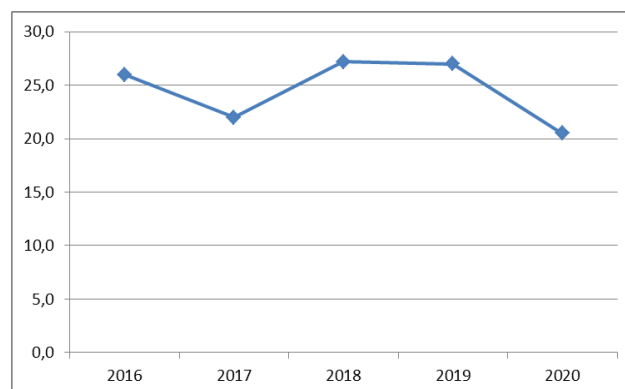


Figure 1. Trends in the share of exports in entrepreneurship²

¹ Author's development on the basis of data of the State Statistics Committee of the Republic of Uzbekistan

The share of entrepreneurship in exports in 2019 was 27.0%, and in 2020 this figure will be 20.5%. This, in turn, indicates that the business entity has an impact on the supply chain in the export of agricultural products, which are interrelated.

As a result of economic reforms, every sector has been regulated and controlled, and effective measures have been taken to prevent food spoilage, among other things. The Food and Agriculture Organization of the United Nations (FAO) conducts ongoing research on the prevention of food insecurity and provides a wide range of practical recommendations. In these matters, the Global Food Waste Index (GFLI) has been developed and put into practice. The purpose of this index is to enable comparisons of positive and negative trends in strengthening losses and supply chains with those of previous years and to help control them through analysis of trends that increase efficiency against food waste.

Although the composition of supply chains is constantly improving, they are exposed to external influences. Many supply chains have become weaker due to the number of possible interruptions, reduced error margins, and low security margins. The COVID-19 crisis has demonstrated the need to ensure the strength and stability of supply chains by integrating all phases into a single centralized process.

The food supply chain can be divided into five stages, including agricultural products, post-harvest processing, processing, distribution, retail service, service and consumption. The food supply chain uses two systems for food quality and safety. The first is based on rules and laws that use mandatory standards that are audited by government agencies. The second is based on voluntary standards set by market laws or international associations. In general, the use of digital technologies in ensuring the continuity of supply chains in any industry can ensure the innovative development of the industry and ensure the continuity of supply systems.

Conclusions and Recommendations

In many countries, manufacturers have already implemented solutions that allow for transparency across the supply chain. Today in our country it is necessary to switch to the use of smart factory solutions. For example, smart factories and plants can provide systems, solutions, and maintenance that support equipment management technology over the Internet. This will enable the construction of smarter, more integrated and automated factories as part of the digital transformation.

Quarantine measures have negatively affected the travel market and the air travel industry, resulting in an increase in the role of online sales and e-commerce.

Of course, digital transformation opens up new possibilities, from automation and real-time analytics optimization to the ability to track loads at all stages. Without knowing the potential problems in the supply chain,

it is not possible to take adequate measures to prevent or solve them. There are new supply chain technologies that can significantly improve transparency at all stages to increase flexibility and stability in the long run.

Preparing and modifying supply chains for a situation similar to the COVID-19 pandemic - rapidly changing market conditions, strict quarantine measures and decisions to close state borders - can take a long time. However, the following step-by-step approach can be used to effectively align supply chains:

Step 1: Establishment of an operational headquarters for supply chain management. The main task is to organize work on the preparation of supply chains for emergencies, to identify priority initiatives for transformation.

Step 2: Adapt logistics and procurement functions to existing business processes for remote operation. All internal validation and processes must be done through the company's IT system. The company also aims to make maximum use of electronic document management in interaction with suppliers.

Step 3: "Mapping" the supply chain and identifying the most vulnerable areas, both geographically and by suppliers.

Step 4: Carry out stress testing of supply chains and develop approaches to respond to stress scenarios or when the situation worsens. At this stage, the transition from demand forecasting to threat scenario forecasting takes place.

Step 5: Monitor the effectiveness of new supply chain management approaches and develop the necessary measures.

These steps will enable producers to continue to deliver food to consumers in a safe, efficient and affordable manner, regardless of future problems and crises.

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