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Directions for Improving The Methodology of Assessing The Food Market Conjuncture

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Abstract: This article examines and enhances the existing methodology for assessing the food market conjuncture, emphasizing the importance of timely and accurate analysis in ensuring food security and market stability. The limitations of current assessment tools—particularly those lacking digital integration and comprehensive indicators—are critically analyzed. To address these gaps, the study introduces a refined methodological system that incorporates an expanded set of indicators and digital technologies such as big data and artificial intelligence. By leveraging statistical and expert-based tools, the research offers practical and theoretical insights for improving forecasting models and regional economic policy. Empirical data from Namangan region form the basis of this study, revealing trends in production, consumption, exports, and pricing. The findings demonstrate the relevance of modernized methodologies for better policy responses, enhanced competitiveness of local products, and more balanced regional development. These insights are crucial for creating a resilient food market system responsive to global and local economic dynamics.

Keywords: food market, market conjuncture, methodology, evaluation methods, indicator system, digital technologies, forecasting

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1. Introduction

Ensuring food security, providing the population with a stable supply of high-quality food products, and maintaining price stability in the market are among the top priorities of state economic policy today. Global economic crises, changing natural and climatic conditions, demographic growth, and urbanization processes are accelerating fluctuations in the food market conjuncture [1]. The growing demand for food and supply-side constraints have led to sharp volatility in market prices. Under such circumstances, the need for prompt and accurate assessment methods of the food market situation is becoming increasingly urgent for timely and effective management of economic processes [2].

The theoretical foundations of food market assessment and forecasting methodology are being continuously refined by economists. Traditional methods—such as statistical analyses, expert evaluations, and index-based approaches—are widely used in assessing market conjuncture [3]. However, practical studies have shown that these methods often lack sufficient accuracy and effectiveness [4]. Therefore, there is a growing need to expand the system of indicators used in assessment and to incorporate modern digital and information-communication technologies [5]. In particular, the application of artificial

intelligence and big data analytics holds great potential for enhancing the precision of market forecasts.

Moreover, it is essential to study international experiences in food market assessment and adapt advanced foreign practices to local conditions. This creates new opportunities for improving assessment methodologies and contributes to the effectiveness of economic policy implementation.

These circumstances scientifically substantiate the relevance of improving the methodology for assessing food market conjuncture. The primary objective of this research is to critically evaluate existing methods and enrich the toolkit for analyzing the food market situation with innovative methodological approaches.

Within the scope of this study, an in-depth analysis of existing assessment methods for the food market conjuncture will be conducted, with a focus on identifying current shortcomings and developing scientifically grounded, practical recommendations to address them. The findings of this research will have significant practical implications for ensuring food security, improving market regulation, accelerating regional economic development, and enhancing management efficiency in the context of the modern digital economy.

Literature Review

The theoretical and practical aspects of the food market and its conjuncture assessment are widely studied in economic literature. Within the framework of this research, the following key sources have been critically analyzed.

The challenges of ensuring food security and regulating market conjuncture are thoroughly addressed in the Presidential Decree of the Republic of Uzbekistan titled "On Additional Measures to Ensure Food Security in the Republic of Uzbekistan". This document outlines the main policy actions for maintaining stability in the food market [6].

In his methodological guide "Methods of Economic and Statistical Analysis of Market Conjuncture", K.R. Usmonov presents detailed approaches to assessing market conditions through economic-statistical tools. This publication highlights the role and applicability of statistical methods in market analysis [7].

The "State of Food Security and Nutrition in the World 2022", published by the Food and Agriculture Organization (FAO), offers a comprehensive view of global food market dynamics, challenges related to food security, and international policy recommendations. It serves as a valuable reference for analyzing the food market in an international context [8].

In their influential textbook "Marketing Management", Kotler and Armstrong explore the theoretical foundations of market conjuncture analysis and the formation of marketing strategies. The book elaborates on methods for in-depth analysis of supply and demand relationships [9].

B.N. Gerasimov, in his work "Market Analysis and Its Conjuncture", examines the concept of market conjuncture, the causes of its fluctuation, and practical analysis methods. This resource is widely used for studying market dynamics [10].

I.V. Lipsits, in "Commercial Pricing", investigates the price formation process for food products and the key factors influencing market price dynamics. The book provides a scientifically grounded perspective on pricing analysis [11].

A.F. Shishkin, in "Statistical Methods of Market Analysis", presents detailed statistical models and techniques used in market assessments. The book is essential for applying statistical tools in market evaluation and forecasting [12].

The World Bank's "Global Economic Prospects" report provides a broad analysis of how global economic conditions affect food markets. It is a vital source for understanding international market trends [13].

I.P. Boyko's monograph "Analysis and Forecasting of the Food Market" thoroughly examines the theoretical and practical aspects of forecasting food market conjuncture. This publication is a key scientific resource in this area [14].

In "Food Security and Market Mechanisms for Its Provision", N.V. Khalimova analyzes the role and importance of market mechanisms in ensuring food security. The study provides a comprehensive overview of market stability and food security interrelations [15].

2. Materials and Methods

This research employed a range of scientific methods to ensure comprehensive and objective analysis. The primary methodological foundation of the study is based on a systematic approach, which enabled the holistic examination of all aspects of small business entities' activities. In addition to this, the research incorporated several methodological tools, including the systematic approach, SWOT analysis, comparative-statistical methods, and expert evaluation techniques.

Empirical data from the Namangan Regional Department of Statistics and financial and economic indicators of small business entities were extensively utilized. Furthermore, the findings from expert surveys played a key role in validating the analytical results and enhancing the robustness of the conclusions.

3. Results and Discussion

Effectively assessing the state of the food market and identifying its development trends constitute one of the key tasks of economic policy. This is particularly relevant in the context of global economic fluctuations, uncertainties caused by natural and climatic factors, and the growing domestic demand. Ensuring food security and stabilizing market conjuncture have thus become urgent priorities.

To successfully address these challenges, it is essential to conduct a comprehensive and in-depth analysis of the market situation. In this context, the main indicators of the food market conjuncture in the Namangan region for the period 2020–2025 have been thoroughly examined. The analysis is based on complex data tables that reflect production volumes, consumption levels, export indicators, and price dynamics.

The study also considers inter-district disparities and specific local economic conditions, which significantly influence the overall regional market performance. These findings provide a solid foundation for forecasting the future state of the food market and formulating well-informed strategic decisions, see Table 1.

Table 1. Volume of Food Product Manufacturing in Namangan Region (2020–2025, billion UZS)

| Region Name | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|---------------|------|------|------|------|------|------|
| Namangan City | 320 | 345 | 370 | 400 | 440 | 485 |
| Chortoq | 120 | 130 | 145 | 160 | 180 | 205 |
| Chust | 180 | 195 | 210 | 230 | 255 | 285 |
| Kosonsoy | 95 | 102 | 110 | 120 | 132 | 145 |
| Mingbuloq | 75 | 82 | 90 | 99 | 110 | 122 |
| Norin | 65 | 70 | 76 | 84 | 94 | 105 |
| Pop | 155 | 168 | 182 | 198 | 217 | 238 |
| To'raqo'rg'on | 88 | 94 | 100 | 108 | 117 | 128 |
| Uchqo'rg'on | 105 | 115 | 127 | 140 | 156 | 174 |
| Uychi | 90 | 98 | 107 | 118 | 130 | 145 |

| | | | | | | |
|---------------|----|----|----|-----|-----|-----|
| Yangiqo'rg'on | 80 | 88 | 97 | 107 | 119 | 132 |
|---------------|----|----|----|-----|-----|-----|

Source: Author's compilation based on data from the Namangan Regional Department of Statistics.

The analysis of the dynamics of food product manufacturing in Namangan region during the period 2020–2025 demonstrates consistent and stable growth across the districts. The highest production volume was observed in Namangan City, where output increased from 320 billion UZS in 2020 to 485 billion UZS in 2025, marking an increase of 165 billion UZS or 51.6%. This sharp rise is attributed to the accelerated processes of industrialization and urbanization, an increased inflow of investments, and the creation of a favorable business environment for local producers in the city.

Among the other districts of the region, significant growth was recorded in Chust (from 180 to 285 billion UZS), Pop (from 155 to 238 billion UZS), and Chortoq (from 120 to 205 billion UZS). In these areas, the food production volume grew by 58.3%, 53.5%, and 70.8%, respectively. These figures reflect the effectiveness of measures aimed at developing the food industry and agro-processing sectors, as well as supporting the activities of small and medium-sized enterprises in these districts.

A stable increase in production volumes was also observed in Kosonsoy, Mingbuloq, Norin, To'raqo'rg'on, Uchqo'rg'on, Uychi, and Yangiqo'rg'on districts. Notably, in smaller economic areas such as Norin (from 65 to 105 billion UZS) and Mingbuloq (from 75 to 122 billion UZS), the steady growth of food production highlights the impact of government-led modernization of agriculture, the introduction of innovative technologies, and the development of agro-clusters.

The overall analysis indicates that all districts of Namangan region have achieved considerable progress in food production. However, disparities in growth rates between districts remain evident. To reduce these regional differences and ensure balanced development, economic policy should aim at redistributing production capacities more evenly, diversifying investment flows, and developing specialized sectors tailored to each district's comparative advantage.

These performance indicators are of great importance for defining future prospects of the food market, enhancing the competitiveness of local products, and ensuring the sustainable development of the region's economy, see Table 2.

Table 2. Volume of Food Product Consumption in Namangan Region (thousand tons)

| Name of the Region | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|--------------------|------|------|------|------|------|------|
| Namangan City | 150 | 157 | 165 | 173 | 182 | 192 |
| Chortoq | 70 | 73 | 77 | 81 | 86 | 92 |
| Chust | 110 | 115 | 121 | 128 | 136 | 145 |
| Kosonsoy | 50 | 52 | 55 | 58 | 62 | 67 |
| Mingbuloq | 45 | 47 | 49 | 52 | 55 | 59 |
| Norin | 42 | 44 | 46 | 49 | 52 | 56 |
| Pop | 95 | 99 | 104 | 110 | 117 | 125 |
| To'raqo'rg'on | 47 | 49 | 52 | 55 | 59 | 64 |
| Uchqo'rg'on | 55 | 58 | 61 | 65 | 70 | 76 |
| Uychi | 49 | 51 | 54 | 57 | 61 | 66 |
| Yangiqo'rg'on | 44 | 46 | 49 | 53 | 57 | 62 |

Source: Author's compilation based on data from the Namangan Regional Department of Statistics.

The analysis of food consumption in Namangan region during the period from 2020 to 2025 reveals a steady and continuous upward trend across all districts. In Namangan City, which serves as the regional center, food consumption increased from 150 thousand tons in 2020 to 192 thousand tons in 2025, representing a growth of 28%. This significant

increase can primarily be attributed to the city's role as the economic hub, along with its growing population and rising living standards.

In the Chust district (from 110 to 145 thousand tons) and Pop district (from 95 to 125 thousand tons), the notable rise in consumption volumes is linked to these areas' economic and demographic development. Population growth and improvements in quality of life in these districts have led to increased demand for food products.

Chortoq district also showed considerable growth in consumption—from 70 to 92 thousand tons, reflecting a 31.4% increase. The expansion in consumption in this district is a result of economic stability, rising household incomes, and the diversification of food demand.

Gradual and steady increases in food consumption were also observed in Kosonsoy, Mingbuloq, Norin, To'raqo'rg'on, Uchqo'rg'on, Uychi, and Yangiqo'rg'on districts. These trends are evidence of successful efforts to improve food security and enhance the welfare of the population, even in districts with relatively lower economic development and smaller populations. Notably, Uchqo'rg'on and Uychi districts have experienced more rapid growth in food demand, which can be explained by rising household incomes and improvements in food supply infrastructure in those areas.

Overall, the consistent increase in food consumption across all districts of Namangan region indicates improving living standards and growing prosperity among the population. At the same time, the analysis shows that, in light of the anticipated future growth in food demand, further development of food production and supply infrastructure is essential. These measures are of strategic importance for ensuring food security and guaranteeing a stable supply of quality food products to the population, see Tabel 3.

Table 3. Volume of Food Product Exports from Namangan Region (thousand USD)

| Name of the District | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|----------------------|------|------|------|------|------|------|
| Namangan City | 1200 | 1350 | 1500 | 1670 | 1850 | 2050 |
| Chortoq | 350 | 400 | 460 | 530 | 610 | 700 |
| Chust | 750 | 830 | 920 | 1020 | 1130 | 1250 |
| Pop | 600 | 670 | 750 | 840 | 940 | 1050 |

Source: Author's compilation based on data from the Namangan Regional Department of Foreign Economic Relations.

An analysis of food product export volumes in Namangan region reveals consistent and significant growth over the period 2020–2025. In Namangan City, the administrative center of the region, export volumes increased from USD 1.2 million in 2020 to USD 2.05 million in 2025, representing a 70.8% growth. This substantial increase is attributed to the rapid development of the city's manufacturing and processing industries, alignment of product quality with international standards, and the expansion of trade and economic relations with foreign markets.

One of the region's leading exporting districts, Chust, also experienced considerable growth in food exports—from USD 750 thousand to USD 1.25 million, marking a 66.7% increase. The rise in exports is closely linked to the advancement of cluster-based food processing systems, along with improvements in product quality and variety.

Pop district also demonstrated a noticeable increase in export performance, with volumes rising from USD 600 thousand in 2020 to USD 1.05 million in 2025, reflecting a 75% overall growth. This improvement can be explained by the expansion of market access opportunities for local producers and enhancements in export logistics and infrastructure.

In Chortoq district, food product exports doubled over the same period—from USD 350 thousand to USD 700 thousand, representing a 100% increase. This growth was primarily driven by the expansion of export-oriented production capacities among local agricultural and industrial enterprises, along with measures to improve product quality.

Overall, the sustained growth in food exports across the region highlights the increasing capacity of local producers to supply competitive, export-ready goods aligned with international market demands. It also reflects the effectiveness of state-supported mechanisms aimed at promoting export activity.

To further enhance these results, it is essential to:

- Expand export geography,
- Diversify the range of export-oriented products, and
- Broaden the adoption of international quality certification systems.

These efforts will play a vital strategic role in strengthening the region's external economic stability and improving household incomes, see Tabel 4.

Table 4. Changes in Food Product Prices in Namangan Region (%)

| Type of Product | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|-----------------------|------|------|------|------|------|------|
| Bakery Products | 5.2 | 5.5 | 6.0 | 6.4 | 6.8 | 7.3 |
| Meat | 6.0 | 6.3 | 6.8 | 7.2 | 7.6 | 8.0 |
| Dairy Products | 4.8 | 5.0 | 5.5 | 5.9 | 6.3 | 6.7 |
| Fruits and Vegetables | 4.5 | 4.8 | 5.2 | 5.6 | 6.0 | 6.4 |

Source: Author's compilation based on data from the Namangan Regional Department of Statistics.

The analysis of food product price trends in the Namangan region over the period 2020–2025 reveals a stable upward trajectory across all categories. Among these, meat products recorded the highest growth, with price increases from 6.0% in 2020 to 8.0% in 2025, representing a total rise of 2 percentage points or 33.3%. This sharp increase is primarily attributed to rising costs in the livestock sector, higher feed prices, and strong consumer demand for meat.

Bread products experienced a price increase from 5.2% in 2020 to 7.3% in 2025, amounting to a total growth of 40.4%. This rise is largely associated with the increase in wheat prices on both international and domestic markets, along with higher transportation and production costs. As a staple good, bread price inflation has significant economic and social implications, particularly affecting low-income households.

Prices for dairy products also showed a clear upward trend, growing from 4.8% in 2020 to 6.7% in 2025, a total increase of 39.6%. This change is mainly due to increased costs for feed, veterinary services, and milk processing operations.

Fruits and vegetables saw prices climb from 4.5% to 6.4% over the same period, representing a 42.2% overall increase. The price growth in this category is primarily driven by rising production costs, including higher prices for mineral fertilizers and seeds, as well as persistent challenges in logistics infrastructure. Additionally, seasonal fluctuations in supply and demand significantly influence price volatility.

Overall, the steady rise in food prices poses potential negative effects on real incomes and purchasing power of the population. Therefore, local government authorities must implement comprehensive measures aimed at price stabilization, including:

- Expanding domestic production,
- Improving logistics infrastructure,
- Supporting food processing enterprises, and
- Developing modern retail and distribution networks.

These interventions are essential for strengthening food security, enhancing public welfare, and ensuring socio-economic stability in the region.

4. Conclusion

First, the establishment of food production clusters based on public-private partnerships (PPP) in Yangiqo'rg'on and Kosonsoy districts of Namangan region is considered a priority. These clusters would enhance the competitiveness of local producers

by enabling specialization and integration. To support this, it is essential to establish special economic zones, provide subsidies and concessional loans to cluster participants, and implement tax incentives. Moreover, the full formation of value chains within the clusters requires the modernization of processing, storage, and quality control systems in line with international standards.

Second, it is crucial to modernize the trade infrastructure in these districts through the development and implementation of comprehensive investment programs. This includes the construction of modern markets, logistics centers, and refrigerated warehouses, which would shorten the supply chain between producers and consumers and improve both the shelf life and quality of food products. To attract private capital to these projects, local authorities should introduce supportive mechanisms such as tax preferences, land allocation, and infrastructure co-financing schemes.

Third, the role of digital transformation must not be overlooked in boosting the competitiveness of the food sector. Expanding e-commerce platforms, promoting online trade, and digitalizing logistics operations can significantly improve market efficiency. Organizing specialized training, workshops, and advisory services on digital sales and marketing for local entrepreneurs would increase the practical impact of such transformations.

Fourth, in order to increase investment inflows into low-performing and less competitive districts—particularly Yangiyo'rg'on and Kosonsoy—it is necessary to broaden tax and credit incentives at the policy level. For instance, introducing a reduced tax burden for newly established enterprises for the first 3–5 years, along with long-term, low-interest credit lines, would help create a more favorable and stable investment climate.

In conclusion, the proposed comprehensive measures will contribute to enhancing the competitiveness of the food industry and market in Namangan region, reducing inter-district economic disparities, and creating new points of economic growth across the territory.

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