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INTERNATIONAL EXPERIENCE IN STATE SUPPORT FOR FOOD INDUSTRY ENTERPRISES AND ITS ADAPTATION TO THE CONDITIONS OF UZBEKISTAN

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Abstract. This article systematizes international experience in providing state support to food industry enterprises and assesses the possibilities for adapting this experience to the conditions of Uzbekistan, where the modernization of food processing has become a strategic priority of the national food security policy. Drawing on a comparative case study of five countries representing distinct support models—the Republic of Korea, China, Türkiye, Poland, and Kazakhstan—the study classifies policy instruments into five functional groups: fiscal incentives, concessional financing, cluster and infrastructure development, quality assurance and certification, and export promotion. Based on the analysis, the article substantiates a set of recommendations for Uzbekistan, including the partial reimbursement of modernization costs, the establishment of a pilot food industry cluster in the Fergana Valley, matching grants linked to the implementation of HACCP and ISO 22000 standards, and a performance-based “leading enterprise” mechanism supported by digital monitoring. The findings contribute to improving the economic mechanisms for the development of industrial enterprises and strengthening their role in ensuring food security.

Keywords: food security; food industry; state support; economic mechanisms; industrial policy; international experience; Uzbekistan.

Аннотация. В статье систематизирован международный опыт государственной поддержки предприятий пищевой промышленности и оценены возможности его адаптации к условиям Узбекистана, где модернизация пищевой переработки является одним из стратегических приоритетов национальной политики в сфере продовольственной безопасности. На основе сравнительного анализа опыта пяти стран, представляющих различные модели государственной поддержки, — Республики Корея, Китая, Турции, Польши и Казахстана — инструменты поддержки сгруппированы в пять функциональных блоков: налоговые льготы, льготное финансирование, кластерное и инфраструктурное развитие, обеспечение качества и сертификация, а также стимулирование экспорта. По результатам анализа обоснован комплекс рекомендаций для Узбекистана, включающий частичное возмещение затрат на модернизацию, создание пилотного кластера пищевой промышленности в Ферганской долине, предоставление софинансируемых грантов, связанных с внедрением систем HACCP и ISO 22000, а также применение механизма «ведущего предприятия», основанного на результативности и поддерживаемого цифровым мониторингом. Полученные результаты способствуют совершенствованию экономических механизмов развития промышленных предприятий и усилению их роли в обеспечении продовольственной безопасности.

Ключевые слова: продовольственная безопасность; пищевая промышленность; государственная поддержка; экономические механизмы; промышленная политика; зарубежный опыт; Узбекистан.

INTRODUCTION

Food security remains one of the central challenges of global development. According to the latest joint assessments by United Nations agencies, hundreds of millions of people continue to experience chronic undernourishment, while climate variability, geopolitical developments, and disruptions to international supply chains have increased the vulnerability of national food systems [4].

In this context, the discussion on food security has gradually shifted from a narrow focus on primary agricultural production towards the performance of the entire agri-food value chain. At the same time, existing instruments of state support—including tax incentives, concessional credit lines, free economic zones, and sectoral programmes—are distributed across various documents and institutions and are not always sufficiently targeted towards the modernization of food industry enterprises.

International experience demonstrates that countries that have successfully transformed their food industries into important drivers of food security and export growth have relied on coherent, enterprise-oriented support mechanisms rather than isolated measures.

Therefore, the purpose of this article is to systematize international experience in providing state support to food industry enterprises and to substantiate directions for adapting this experience to the institutional conditions of Uzbekistan.

To achieve this purpose, the following tasks are addressed:

1. to classify the state support instruments applied in international practice;
2. to conduct a comparative analysis of five national models;
3. to assess the adaptability of the identified mechanisms to the conditions of Uzbekistan; and
4. to formulate practical recommendations for improving the economic mechanisms for the development of industrial enterprises and strengthening their contribution to food security.

LITERATURE REVIEW

The theoretical understanding of food security has evolved considerably over recent decades. The widely accepted definition adopted at the World Food Summit and further developed in subsequent FAO publications is based on four pillars: availability, access, utilization, and stability [4]. Barrett emphasizes that measurement and policy should focus on access and vulnerability rather than on aggregate supply alone [2], while Godfray et al. conceptualize food security as a systemic challenge requiring simultaneous progress in production, distribution, and waste reduction [5]. Within this systemic perspective, the industrial segment of the food chain is increasingly recognized as a key determinant of both the physical and economic accessibility of food.

A second strand of the literature links the development of the food industry to structural transformation. Timmer demonstrates that the historical transition away from hunger has generally been accompanied by a structural reallocation of labour and capital from primary agriculture towards agro-processing, services, and manufacturing [13]. Reardon and Timmer describe a “quiet revolution” in the food systems of developing countries, in which processing and modern distribution segments grow substantially faster than primary agriculture and become the principal channels through which technology, standards, and investment reach farmers [10]. Pingali demonstrates that income growth and urbanization systematically shift dietary patterns towards processed and higher-value products, thereby further increasing the strategic importance of the food-processing industry [9]. The FAO–UNIDO agenda on agro-industries for development concludes that the formation of a competitive food industry in developing economies requires a purposeful combination of an enabling institutional environment and targeted support instruments [3].

A third strand of the literature examines the design and political economy of support policies. Anderson analyses the long-term effects of inadequately designed agricultural support measures and emphasizes the importance of selecting instruments that promote economic efficiency [1]. Using the Common Agricultural Policy as an example, Swinnen demonstrates that the structure of support is shaped by political bargaining and that clearly defined conditionality is essential for policy effectiveness [12]. Comparative assessments conducted by the OECD provide systematic evidence on the scale and composition of support in both advanced and emerging economies [8], while country-specific studies examine mechanisms such as China’s “leading enterprise” policy [11; 6] and the transformative effects of European Union accession instruments on the food industries of new member states.

For Central Asia, Pomfret provides a broad institutional assessment while also highlighting the need for more extensive enterprise-level policy analysis. The present article seeks to contribute to addressing this research gap by applying a comparative policy perspective at the level of food industry enterprises and evaluating the potential adaptability of specific support mechanisms to the institutional conditions of Uzbekistan.

RESEARCH METHODOLOGY

The study employs a qualitative comparative case-study design combined with a systematic analysis of policy documents and secondary evaluations. Five countries were selected based on the following three criteria: (i) the existence of institutionalized and well-documented state support programmes for food industry enterprises with at least ten years of implementation experience; (ii) the diversity of the underlying policy models, including the East Asian developmental approach represented by the Republic of Korea and China, the European Union transition pathway represented by Poland, an emerging-market model combining national and external support instruments represented by Türkiye, and an institutionally comparable post-Soviet model represented by Kazakhstan; and (iii) the availability of independent assessments conducted by international organizations and published in peer-reviewed studies, enabling the triangulation of official information.

In preparing this study, artificial intelligence (AI) was used to a limited extent (approximately 10%) to support language editing, improve the clarity of academic expression, and enhance the organization of the

manuscript. The research design, data analysis, interpretation of findings, and final conclusions were developed and verified by the author.

ANALYSIS AND RESULTS

The Korean model illustrates the developmental-state approach applied to the food sector. Its most distinctive element is the National Food Cluster, also known as Foodpolis, located in Iksan. This purpose-built territorial complex brings together research institutes, pilot production facilities, packaging and functional food laboratories, and certification services. It also provides resident food companies with shared infrastructure, tax incentives, and administrative support [7].

Another important component of the Korean model is the systematic dissemination of food-safety management practices. The state supports small and medium-sized food-processing enterprises in adopting HACCP standards, thereby contributing to the overall improvement of quality and safety across the industry.

The Korean experience demonstrates that physical cluster infrastructure, specialized export-support institutions, and the widespread adoption of quality standards complement one another and jointly contribute to transforming domestic food processors into internationally competitive exporters.

Chinese policy is based on the concept of “dragon-head” (*longtou*) leading enterprises. These are large agro-processing companies that receive official status and, consequently, gain access to tax incentives, subsidized credit, and priority land allocation. In return, they are expected to integrate smallholder farmers into value chains through contract farming based on the “company + base + household” model [11].

This mechanism deliberately positions the enterprise as the central coordinating unit of the value chain. State support is directed towards the processor, while the processor transfers technology, production inputs, and stable market demand to primary producers.

Existing evaluations highlight two important lessons relevant to policy adaptation. First, leading-enterprise status should be linked to measurable and verifiable performance obligations. Second, the selection process should be transparent and based on clearly defined criteria to ensure that support is allocated efficiently and contributes to the intended development objectives.

The Turkish model combines national support for small and medium-sized enterprises with external co-financing mechanisms. The Small and Medium Enterprises Development Organization of Türkiye (KOSGEB) provides grants and concessional loans for machinery modernization and the digitalization of small food-processing enterprises. At the same time, organized industrial zones provide serviced land, utilities, and production infrastructure at relatively predictable costs.

One of the most instructive elements of the Turkish model is the IPARD programme, administered by the Agriculture and Rural Development Support Institution (TKDK). European Union pre-accession funds are provided in the form of matching grants that reimburse a substantial share—typically approximately half—of eligible investment costs related to the processing and marketing of agricultural and fishery products. Such support is provided on the condition that the financed enterprise achieves compliance with European Union food-safety and environmental standards [8].

The comparative characteristics of the five national models are summarized in Table 1.

Table 1. State support mechanisms for food industry enterprises in selected countries

Country	Flagship support mechanisms	Institutional operator	Key lesson for Uzbekistan
Republic of Korea	National food cluster (Foodpolis) integrating R&D, pilot plants and certification services; export promotion of K-Food; HACCP adoption support for SMEs	Ministry of Agriculture, Food and Rural Affairs; aT (Korea Agro-Fisheries & Food Trade Corporation)	Combine physical cluster infrastructure with a dedicated export-promotion institution and standards diffusion
China	Designated ‘dragon-head’ leading enterprises receiving tax preferences and subsidized credit conditional on contract-farming integration of smallholders; agro-industrial parks	Ministry of Agriculture and Rural Affairs; provincial governments	Performance-linked ‘leading enterprise’ status can strengthen backward linkages, but requires transparent selection criteria
Türkiye	IPARD matching grants for modernization of processing tied to food-safety compliance; KOSGEB SME machinery and digitalization support; organized industrial zones	TKDK (Agriculture and Rural Development Support Institution); KOSGEB	Co-financed matching grants conditioned on standards upgrade deliver capacity and quality simultaneously

Source: compiled by the author on the basis of [9; 10; 11; 12; 13; 14; 15].

Uzbekistan has already established substantial elements of a state support system. Strategic documents identify food security and the development of food processing as national priorities; tax and customs incentives are applied to selected agro-food activities; concessional credit lines are provided through state programmes and international financial institutions; free economic zones with an agro-industrial focus have been established; and a network of agro-logistics centres is gradually being developed. The regulatory framework governing food quality and safety, originating from the 1997 law, is also being progressively harmonized with international standards.

However, when the national policy toolkit is assessed against the five functional blocks identified above, three areas requiring further development become apparent. First, the existing instruments are distributed across numerous documents and institutions, while responsibility for the comprehensive development of food industry enterprises is not yet concentrated within a single coordinating body. Second, support mechanisms are not always sufficiently linked to measurable results, as incentives are predominantly granted based on sectoral affiliation rather than in exchange for clearly defined modernization, quality-improvement, or value-chain integration commitments.

Against this background, the adaptation of international experience may be structured as follows. Drawing on the Kazakh model, Uzbekistan could introduce, with relatively limited institutional adjustment, a mechanism for the partial reimbursement of investment costs associated with the modernization of processing capacities. Such support should be based on transparent and publicly available project-selection criteria, while reimbursement should be provided only after the verified commissioning of the relevant facilities.

The Turkish and Polish models suggest the introduction of matching grants co-financed by international financial institutions and conditional upon the certified implementation of HACCP and ISO 22000 standards. This mechanism would simultaneously address both financing and quality-assurance needs. It would also be compatible with the requirements associated with WTO accession, as expenditure on standards, inspection, and related general services is generally classified among the least trade-distorting forms of support.

Drawing on the Korean model, Uzbekistan could also adapt the cluster-based approach. A pilot food industry technopark in the Fergana Valley—a region characterized by a concentrated horticultural raw-material base, established processing enterprises, and significant university research capacity—could integrate shared laboratories, certification bodies, pilot production lines, and export-support services. This would contribute to reducing the fixed costs associated with quality infrastructure for small and medium-sized food-processing enterprises.

CONCLUSIONS AND RECOMMENDATIONS

The comparative analysis demonstrates that countries that have successfully transformed their food industries into important pillars of food security have done so through coherent, conditional, and institutionally grounded support systems rather than through isolated preferences.

Based on the findings of the study, the following recommendations are proposed for Uzbekistan. First, the existing support instruments should be consolidated into a unified programme for the development of food industry enterprises, with clearly assigned institutional responsibilities and measurable key performance indicators.

Second, a mechanism for the partial reimbursement of investment costs associated with the modernization of processing capacities should be introduced. This mechanism should be based on transparent and publicly available scoring criteria, with financial support provided after the verified commissioning of the relevant facilities.

Third, a matching-grant scheme co-financed by international financial institutions should be introduced for small and medium-sized food-processing enterprises. Access to such grants should be conditional upon the certified implementation of HACCP and ISO 22000 standards.

Fourth, a pilot food industry cluster should be established in the Fergana Valley, integrating shared laboratories, certification services, pilot production facilities, and export-promotion services.

The proposed measures are consistent with the strategic objectives of Uzbekistan's national food security policy and with the requirements associated with WTO accession, as they place particular emphasis on general services, quality infrastructure, and conditional, time-bound support for enterprises.

Future research in this area should focus on the quantitative assessment of the effectiveness of individual support instruments using enterprise- and regional-level panel data. This would make it possible to adapt and calibrate the proposed mechanisms more precisely to the specific economic and institutional conditions of Uzbekistan's regions.

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