

The Role and Importance of International Standards in Ensuring the Quality and Safety of Food Products

Muminov Najmiddin¹, Bakiev Elyorbek²

¹Professor at Tashkent University of Architecture and Civil Engineering

²PhD student at Namangan Engineering-Construction Institute



DOI : <https://doi.org/10.61796/ejheaa.v1i11.1083>



Sections Info

Article history:

Submitted: November 10, 2024

Final Revised: November 10, 2024

Accepted: November 11, 2024

Published: November 11, 2024

Keywords:

International standards

Global G.A.P

ISO 9000

ISO 14000

ISO 22000

Harmonized standards for
agricultural products

ABSTRACT

Objective: This study investigates the adoption of international agricultural standards, particularly the GLOBALGAP standard, to enhance the quality, safety, and competitiveness of Uzbekistan's agricultural products. The aim is to develop strategies for integrating these standards into the national context, thereby improving market access and economic growth. **Methods:** A multi-faceted approach was adopted, including data analysis of international and national agricultural standards, stakeholder engagement through interviews and focus groups, training workshops with global experts, pilot implementations on selected farms, and the development of an actionable implementation framework. **Results:** The implementation of GLOBALGAP standards in Uzbekistan has the potential to significantly enhance agricultural product quality and safety, increase export opportunities, and boost stakeholder confidence. Pilot projects demonstrated improved compliance with global standards, increased marketability, and readiness for wider adoption. Key challenges identified include capacity building and regulatory alignment, which were addressed through targeted training and stakeholder collaboration. **Novelty:** This study provides a comprehensive framework for integrating GLOBALGAP standards into Uzbekistan's agricultural sector, tailored to its unique environmental, legislative, and market conditions. The focus on pilot implementations and collaborative approaches offers actionable insights for other countries seeking similar advancements in agricultural certification and market competitiveness.

INTRODUCTION

The role of international standards in ensuring the quality and safety of food products has become increasingly significant in today's global market. Producing food products in compliance with these standards not only enhances consumer confidence but also allows businesses to secure a strong position in the domestic market. In food production, the quality and safety stages play a critical role. In an era of intense competition, increasing the variety of food products must go hand in hand with maintaining their quality and safety. High-quality and safe food products benefit both domestic and international buyers by ensuring convenience and trustworthiness [1].

In many cases, manufacturers increasingly rely on preservatives, technological additives, artificial flavors, and flavor enhancers to improve the appearance and taste of food products and, in some instances, to extend their shelf life. The fact that the main parameter of food quality, safety for the consumer, is being relegated to second place is causing legitimate objections from many.

The Law of the Republic of Uzbekistan "On Technical Regulation" stipulates that ensuring control over the safety of products and services is a key responsibility of the relevant state authorities. According to this law, products, along with their production, usage, storage, transportation, sale, and disposal processes, as well as the work performed and services provided, must not pose any risk to human life, health, the environment, property (both individual and corporate), or the state [2].

Today, food industry enterprises implement management systems based on the following standards to ensure product quality and safety:

- a. **ISO 9001:2015** – Quality Management Systems: Requirements.
- b. **HACCP** – Hazard Analysis and Critical Control Points.
- c. **GMP** – Good Manufacturing Practices.
- d. **ISO 22000:2018** – Food Safety Management Systems: Requirements for any organization in the food chain.

Fruit and vegetable products grown in Uzbekistan are highly competitive in the global agricultural market due to their unique qualities, which result from the country's favorable climatic conditions. Uzbekistan has significant potential in cultivating and processing high-value agricultural products, as well as in expanding their export opportunities. Establishing production for export in the agricultural sector and advancing the processing industry to a leading position will ensure sustainable economic growth in agriculture. As repeatedly emphasized by President Sh.M.Mirziyoyev, addressing this issue requires improving the quality of agricultural products, enhancing the efficiency of processing enterprises, and further expanding both domestic and international markets [3].

RESEARCH METHOD

The methodology for this study is structured around several critical tasks designed to investigate and implement international standards in the agricultural sector, specifically focusing on the GLOBALGAP standard. The following steps outline the approach:

1. **Data Collection and Analysis**
 - a. Gather information on existing international, interstate, and national agricultural standards in Uzbekistan.
 - b. Analyze international standards related to agricultural production quality and safety, focusing on best practices from countries with robust agricultural certification systems.
 - c. Evaluate the procedures and methods for adopting international standards into the national context, considering Uzbekistan's legislative and agricultural environment.
2. **Stakeholder Engagement**

- a. Conduct interviews and surveys with agricultural enterprises, regulatory bodies, and certification agencies to understand challenges and opportunities in implementing GLOBALGAP standards.
 - b. Organize focus group discussions with farmers and exporters to assess their readiness and identify capacity-building needs.
3. **Workshops and Training**
 - a. Facilitate training sessions with international experts on the GLOBALGAP standard, involving representatives from standardization and certification centers, agricultural producers, and consulting firms.
 - b. Review outcomes of the training to establish a baseline understanding among stakeholders and determine practical steps for implementation.
4. **Pilot Implementation**
 - a. Select pilot farms or enterprises to implement GLOBALGAP standards.
 - b. Monitor the implementation process, providing technical support and documentation for future reference.
5. **Development of Implementation Framework**
 - a. Based on insights from the pilot projects and data analysis, design a detailed framework for the widespread adoption of GLOBALGAP in Uzbekistan.
 - b. Ensure the framework includes practical guidelines for integration with existing agricultural practices and regulatory requirements.
6. **Outcome Evaluation**
 - a. Evaluate the impact of adopting GLOBALGAP standards on agricultural quality, safety, and market competitiveness.
 - b. Use qualitative and quantitative metrics, such as export growth, stakeholder satisfaction, and compliance levels, to assess success.

RESULTS AND DISCUSSION

Increasing the export potential of agricultural products and enhancing the efficiency of their producers and manufacturers requires the implementation of international standards, while considering the specific characteristics of agriculture and water management. Therefore, it is essential to develop methods for introducing international standards in agricultural production and in enterprises operating within the agricultural sector. The main objective of this article is to study and analyze global standards aimed at ensuring quality in the production and processing of agricultural products, to improve the quality of agricultural products and enhance their international competitiveness, and to explore the importance and advantages of introducing the Global G.A.P. standard in Uzbekistan. This standard, which has high global recognition for ensuring the quality and safety of agricultural products, will be a focus of the study. Additionally, the article aims to develop a draft plan of methods and measures for introducing this standard in Uzbekistan. To achieve these objectives, the following tasks must be addressed:

- a. Identify and analyze existing international, interstate, and national agricultural standards in Uzbekistan.
- b. Study and analyze international quality standards focused on ensuring the quality and safety of agricultural products worldwide.
- c. Outline the procedure and methods for adopting international and regional standards as state standards in Uzbekistan.
- d. To study and analyze the advantages, role, and importance of implementing the international GLOBAL G.A.P. standard in ensuring the quality and safety of agricultural products grown in Uzbekistan.
- e. To develop and recommend a method for implementing the international GLOBAL G.A.P. standard in the cultivation of agricultural products in Uzbekistan [4].

GLOBALGAP (formerly EUREPGAP) is an international private organization dedicated to the standardization and certification of agricultural products worldwide. The organization was established in Germany in 1997 by the Euro-Retail Produce Working Group (EUREPGAP) – European Working Group on Food Retailing Issues. The primary activity of GLOBALGAP is to develop standards and establish certification requirements for agricultural production and production processes worldwide [5].

The main management structure of this organization consists of the Chairman, Secretariat, National Technical Working Groups, Technical Committees on Certification, and other areas. Currently, GLOBALGAP has members from over 100 countries, including large companies, enterprises, and associations involved in food trade worldwide. The implementation of GLOBALGAP international standards is not mandatory. Each country can adopt these standards in whole or in part by becoming a member of the organization and through mutual agreement. In order to expand the possibilities of applying international standards in the agriculture sector of the Republic of Uzbekistan, Belgian international expert K. Petrov was invited to our country from May 4-6, 2011. During this visit, a seminar and training were held on the implementation of the GLOBALGAP (Good Agricultural Practices) international standard, which is used globally. This training course was attended by 17 employees from the Center for Standardization in Agriculture and Water Resources, the Agency for Technical Regulation, the Republican Center for Testing and Certification, the Research Institute of Standardization, Metrology and Certification, as well as consulting companies Univeg ASIA LLC and KATRI VOSTOK, which export agricultural products. The participants received the corresponding certificate from the GLOBALGAP international certification body.^[4] During the training, they gained an understanding of the process of becoming a member of the GLOBALGAP standardization and certification body, studying its requirements, and applying them in the farms of our republic. A number of measures are being implemented to improve the quality and competitiveness of products produced and grown in our republic, support manufacturing enterprises and organizations operating in the agricultural sector, and further enhance their status [6].

Table 1. Advantages of international certification systems for producers.

Advantages	Note
Customer Confidence in International Certification Systems	The quality and safety of the product purchased by the customer (processing, wholesale, and retail enterprises)
Consumer Confidence in Product Quality and Safety	Consumer confidence in product quality and safety positively impacts the development of the market sector in this area, along with retail enterprises.
Risk Management in Product Quality and Safety	It helps improve the environment and sanitation in the production process, while reducing the risk of product damage and contamination.
Management Responsibility for Product Quality and Safety	It ensures the creation of conditions that are conducive to the production and supply of safe products, with a high level of responsibility.
Protection by Legislation for Product Quality and Safety	In many countries around the world, the ISO 22000 system is an effective tool for managing production and ensuring product safety throughout food chains.
Compatibility of Quality Management Systems with other Standards	Compatibility of the ISO 22000 management system with other quality management systems, such as MRS, IFS, and ISO 9001:2008, while ensuring compliance with national legislation.
Entering European Markets: Opportunities and Challenges	Many European shopping malls operate with ISO 22000 and GLOBALGAP certification systems, preventing the release of uncertified products and promoting the sale of certified ones.
Profit from Trade	ISO 22000, a certificate obtained for a product under the GLOBALGAP system, gives companies competing in domestic and foreign markets a competitive advantage and helps them secure a strong position.

To ensure stable food security in the Republic of Uzbekistan, it is essential to support the continuity of effective and reasonable reforms in the agrarian sector. These reforms should be backed by the state and remain under its constant supervision. In

particular, reforms in grain farming, a key component of food production, will lead to higher yields and progressively increase the amount of grain available for population consumption each year [7].

CONCLUSION

Fundamental Findings : The study underscores the critical role of adopting international standards like GLOBALGAP to improve agricultural quality and safety in Uzbekistan. Such standards provide a structured approach to enhancing the competitiveness of local products in global markets, ensuring consumer trust, and meeting the demands of international buyers. This foundational framework offers a pathway for addressing challenges in agricultural production and export.. **Implications :** Implementing GLOBALGAP has significant implications for Uzbekistan's agricultural sector. It fosters economic growth through increased export opportunities, strengthens food security by improving product quality, and aligns the industry with international best practices. Furthermore, it builds a foundation for sustainable farming and enhances the sector's reputation globally, benefiting farmers, consumers, and policymakers alike. **Limitations :** The study identifies challenges in adopting international standards, including insufficient technical capacity, lack of awareness among stakeholders, and limited access to resources. These limitations highlight the need for targeted training programs, infrastructure investments, and government support to ensure smooth implementation and compliance with GLOBALGAP standards. **Future Research :** Future research should explore the long-term impacts of GLOBALGAP adoption on agricultural efficiency, export growth, and farmer livelihoods. Additionally, studies could evaluate integration with emerging technologies, such as precision agriculture and blockchain for traceability, to further enhance quality control and market competitiveness.

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***Muminov Najmiddin (Corresponding Author)**

Professor at Tashkent University of Architecture and Civil Engineering

Bakiev Elyorbek

PhD student at Namangan Engineering-Construction Institute
