

FACTORS FOR INCREASING THE ECONOMIC EFFICIENCY OF AGRICULTURAL PRODUCTION

Sadoqat Komiljonovna Rakhmatullayeva
a lecturer at Urgench Innovation University.
<https://doi.org/10.5281/zenodo.17524978>



ARTICLE INFO

Received: 29th October 2025

Accepted: 30th October 2025

Online: 31st October 2025

KEYWORDS

The development of the agricultural economy is directly related to ensuring national food security

ABSTRACT

This thesis analyzes the issues of improving the economic efficiency of agricultural production. It highlights the impact of rational resource utilization, implementation of intensive technologies, and innovative approaches on economic outcomes. Research results show that increasing production efficiency is directly linked to land productivity, cost reduction, and yield improvement

Main Part

The development of the agricultural economy is directly related to ensuring national food security, increasing employment, and expanding export potential.

In recent years, a number of reforms have been implemented to enhance the economic efficiency of agricultural production. In particular, **digital technologies, automation of agro-technical processes, and water-saving irrigation systems** have been widely introduced.

According to the data of the **Ministry of Agriculture of the Republic of Uzbekistan**, in 2024 the **average crop yield increased by 8–10%**, which significantly improved the overall profitability of production. Furthermore, **the development of cooperative systems and investments in processing enterprises** have strengthened the sustainability of the agricultural sector.

Table 1. Main Economic Indicators of Agricultural Production

Indicators	2022	2023	Growth (%)
Land area (ha)	120	125	104.1
Yield (q/ha)	32.5	36.2	111.4
Total cost (million UZS)	185.0	190.0	102.7
Profit (million UZS)	65.4	80.3	122.8
Profitability (%)	35.4	42.3	119.5
Indicators	2022	2023	Growth (%)

As shown in the table, the **growth rates of yield and profit exceed the increase in total costs**, indicating improved production efficiency. In particular, profitability reached **42.3% in 2023**, which reflects more rational use of production resources.

This document provides an analysis of the key technological factors that influence agricultural efficiency.

The integration of modern technology into agriculture not only improves productivity but

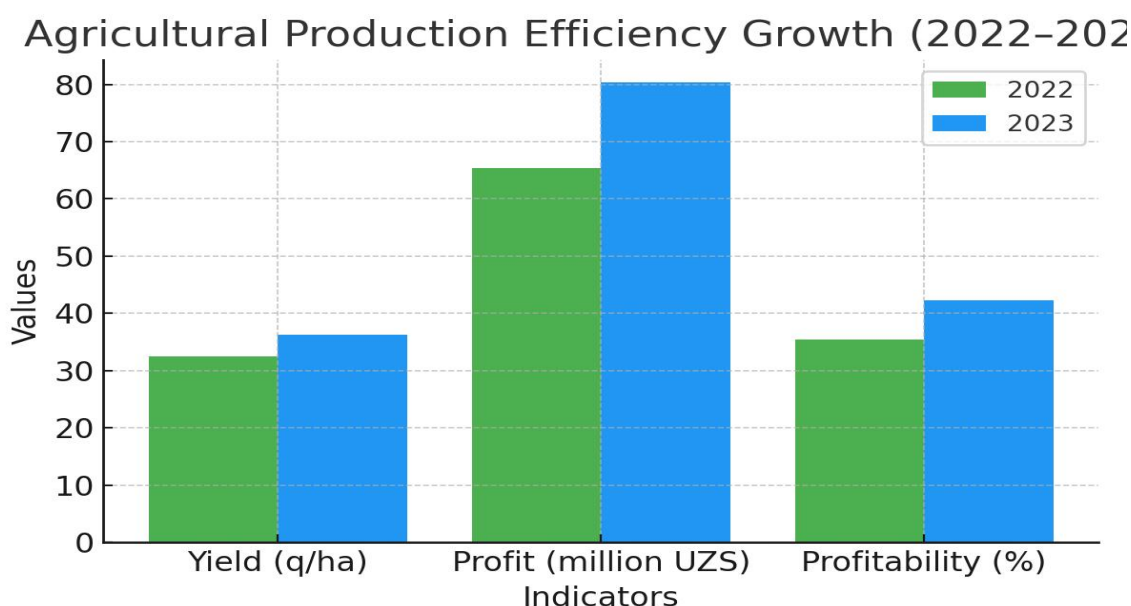
also enhances the sustainability of farming systems.

Key Technological Factors:

1. "Mechanization:" The use of advanced machinery reduces labor costs and increases speed and precision.
2. "Irrigation Systems:" Automated and drip irrigation technologies optimize water use efficiency.
3. "Fertilizer Management:" Smart sensors help apply fertilizers in optimal quantities.
4. "Storage and Processing:" Modernized storage reduces post-harvest losses and improves product quality.
5. "Digital Agriculture:" Data-driven systems and AI-based monitoring improve decision-making.

Diagram: Influence of Technological Factors

The chart below illustrates the contribution of each factor to overall agricultural efficiency:



In summary, the integration of mechanization, irrigation technologies, fertilizer optimization, and post-harvest processing systems forms the backbone of efficient and sustainable agricultural practices.

Conclusion

To improve the economic efficiency of agriculture, it is necessary to ensure rational use of resources, implement scientific achievements in production, apply water-saving technologies, and increase labor productivity.

In addition, **providing concessional loans, subsidies, and attracting investments**, as well as improving the **logistics system**, will ensure the sustainable development of the agricultural sector.

In the future, **establishing digital agro-service centers and strengthening cooperation with research institutions** will further enhance economic efficiency.

Glossary

Efficiency: The degree to which maximum output is achieved from available resources.

Productivity (Yield): The amount of output (harvest) obtained from a unit of land area.

Profitability: The ratio of profit to total costs expressed as a percentage.

Innovation: The introduction of new technology or methods into production.

Resource: Inputs used in the production process (land, labor, capital, etc.).

Cooperation: A system of collaboration between farms and enterprises for joint production.

References:

- 1.Muminov M., To'xtaxunov Q. Certificate of inclusion of the created variety in the State Register No. 598 — Amaranth variety "Uzbekistan-M." October 10, 2018.
- 2.Muminov M., To'xtaxunov Q. Certificate of inclusion of the created variety in the State Register No. 599 — Amaranth variety "Andijan-M." October 10, 2018.
- 3.Muminov M., To'xtaxunov Q. Certificate of inclusion of the created variety in the State Register No. 600 — Amaranth variety "Marhamat." October 10, 2018.
- 4.Muminov M., To'xtaxunov Q. Certificate of inclusion of the created variety in the State Register No. 601 — Amaranth variety "Ulug'nor." October 10, 2018.
- 5.To'xtaboyev N.X. Prospects for the complex processing of the plant Amaranth (*Amaranthus hybridus* L.) as a food source. In: Problems of flora, fauna, and their rational use in the Fergana Valley. Proceedings of the regional conference. Andijan, January 26, 1999, p.132.