

**ORGANIK FARMING: SURROUNDINGS-ENVIRONMENT
PROTECTION MAKING AND ECONOMIC ANALYSIS
Land Reforms Center, Efficient Use of Land Resources Project.**

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Abstract

This paper analyzes the role and economic potential of organic farming in Uzbekistan within the broader context of environmental protection and sustainable agriculture. Organic farming, as a modern agricultural practice, emphasizes the rational use of natural resources, avoidance of synthetic chemicals, and preservation of soil fertility. The study provides a regional overview of global organic farming development, highlighting Uzbekistan's current state, export dynamics, and key crops involved in organic production. Particular attention is given to the economic comparison of organic and traditional farming through case studies of wheat and tomato cultivation. The findings demonstrate that despite higher initial costs, organic farming offers significant environmental benefits and can generate higher profitability due to premium market prices. The paper concludes with recommendations for expanding organic agriculture, improving regional diversification of exports, and strengthening compliance with international standards to enhance competitiveness in global markets.

Keywords: organic farming, Uzbekistan, sustainable agriculture, environmental protection, economic analysis, export of organic products, soil fertility, international standards, organic certification, biofauna, agroecosystem

I. Introduction

Organic farming – It is one of the modern approaches in agriculture aimed at increasing the efficient use of natural resources, maintaining soil fertility and ensuring the sustainability of the agroecosystem. This method of farming is based on the principle of avoiding artificial means, such as synthetic fertilizers and chemical pesticides, and obtaining environmentally friendly products. Therefore, organic farming plays an important role not only in terms of environmental

protection, but also in terms of the production of agricultural products that are safe for human health.

Today, the demand for organic agriculture in the world is increasing. According to statistical data provided by international organizations, the number of farms engaged in organic farming is growing significantly, and the volume of investments in this area is also expanding. Especially in developed countries, the growing consumer demand for organic products creates the need to increase quality standards and production volumes. However, in the development of organic farming, such methods as crop rotation, the use of natural fertilizers, pest control using biological agents become relevant.

In recent years, the Republic of Uzbekistan has paid special attention to the development of environmentally sustainable agriculture, rational use of natural resources and production of high-quality, export-oriented products. One of the important directions of this strategy is the development of organic farming that contributes to the country's integration with international markets and increasing the competitiveness of agricultural products.

This analytical material is aimed at studying the impact and cost effectiveness of organic farming on the environment, as well as analyzing the prospects of this direction in Uzbekistan and ways of its development.

II. Organic of peasants mintaqaviy Distribution

The geographical distribution of organic agriculture has been formed to varying degrees in different regions, with approximately 100 percent of the world's GDP as of 2022. **96,4 million ga** The land has transitioned to organic farming was in the transition (conversion phase) showing land areas .

The regions with the largest organic agricultural land areas are:

- Oceania – **53,2 million ga** (Part of the world's organic land) 55%)
- Europe – **18,5 million ga** (19%)
- Latin America – **9,5 million ga** (10%)
- Asia – **8,8 million ga** (9,2%)
- North Africa – **3,6 million ga** (3,8%)

- Africa – **2,7 million ga** (2,8%)

These indicators indicate that some regions are leaders in the development of organic farming. Oceania and Europe, in particular, show rapid progress in organic agriculture. The Asia region is also witnessing significant growth in this area, which means new opportunities for organic production and export.

III. Organic farming in Uzbekistan

In the Republic in 2024 **13,5 ming** ga also Organic crops (**8,2 ming ga** cotton; **3 ming ga** vegetables, **1,4 ming ga** grain, **852 ga** Medical) planted. The total of these fields **39,7 ming tn** Product (**21,7 ming tn** cotton; **11,7 ming tn** vegetables, **4,65 ming tn** grain, **1,6 ming tn** Medical) cultivated.

For example, at the BIOHUMUS farm in Nukus **50 ga** organic tomatoes are grown in the field and dried to European countries (Germany, the Netherlands) **6 United States doll.** and exported (from traditional tomatoes) **5 United States doll.** and Multiple). Tashkent "Global Export Company" LLC By Kattakurgan and Chinkurgan Reservoirs **480 ga** Organic corn, beans, and peanuts are grown in the area.

Meanwhile, in the republic (12 Your tuman) **16 Your Region** More **6,3 ming ga** organic fruits and vegetables, of which, **3,6 ming ga** grapes, **2,1 ming ga** meva, **423 ga** vegetable, **176 ga** It specializes in growing potatoes and today these fields are going through a "transition period".

Statistics on the export of organic products in Uzbekistan in 2024 show that, It is! During the total **20 659 tn** Organic Agricultural Product **5 662 ming United States doll.** exported to the United States. Of these, basically **Onions export (18,3 tn)** Jump to navigation B It shows that it is grown in accordance with international market demand. UNDP **grapes (967 tn) and beans (614 tn)** Although it has achieved significant results in terms of export volumes, exports of other products, especially dried fruits and nuts, are relatively small. This difference may be due to the difference between market demand and production volumes.

Looking at the financial results, Onion is a leader not only in terms of export volume, but also in terms of income – **2,4 million United States doll.** Products such as grapes and raisins are also important sources of income, respectively **1,3 mln**

United States doll. va 0,7 million United States doll. which brought in income. Interestingly, Although the export volume of beans is relatively high (**614 tn**), its export amount is only **0,6 million United States doll.** It's founded, which indicates that it is being sold at a relatively low price. Dried products, especially dried apricots and plums, did not bring much export income, which means that there is a lower demand or price in the market for these products.

Looking at the territorial breakdown, the main part of exports is from the Tashkent region (**15 Is itng tn**) has been implemented. This may be due to the development of infrastructure around the capital and logistical convenience. Jizzakh (**4,7 ming tn**) and Samarkand (**852 tn**) Regions also play an important role, but the share of other regions in exports is limited. This indicates the need to diversify the country's export opportunities at the regional level.

If we focus on export geography, Kazakhstan (**1,85 mln United States doll.**) and Turkey (**1,67 million United States doll.**) They are the main buyers of organic products in Uzbekistan. This is explained by the geographical proximity of the countries, the development of trade ties and the high demand for organic products. At the same time, Georgia (**0,7 mln United States doll.**) and Iraq (**0,4 mln United States doll.**) imported a considerable amount of product as well, which shows the potential for expanding exports to these markets in the future. However, Pakistan (**6 ming United States doll.**) and Macedonia (**9 ming United States doll.**) Export volumes to countries such as, which means that we need to revise our strategy to enter these markets or that demand is not formed enough.

In general, Although Uzbekistan has achieved significant results in the export of organic products, it is possible to achieve more effective results by eliminating some shortcomings. While the export of onions is the absolute leader, it is necessary to look for new markets to increase exports of dried products and nuts. Regional diversification is an important issue, and in addition to Tashkent and Djizak, other regions should also pay attention to increasing exports. Central Asia, Turkey and the Middle East can be seen as the main export destinations, but the European and Southeast Asian markets can also create new opportunities.

Info: In 2023 total 10,6 ming gaalso 30,6 ming tn organic products are grown (cotton, fruits and vegetables, medicinal).

The number of certified enterprises in the country, having introduced the requirements of international organic standard **52 Now** (In 2023) **37 Your, 15 Your** . From this, in 2024 **7 Your** "Trade Development Company" JSC to cover the costs of obtaining these certificates to the enterprise. **719 Million UZS** Financial assistance has been allocated.

IV. Impact on the environment and human health:

1. **Chemical Pollution Reduction:** Organic farming does not use synthetic fertilizers and pesticides, which reduces chemical pollution of water and soil. As a result, ecosystems remain stable and biodiversity thrives.
2. **Improve soil fertility:** Farming uses methods such as compost and alternate planting, which ensures that the soil is enriched with organic matter. This improves the soil structure and reduces the risk of erosion.
3. **Climate Change Mitigation:** Through organic practices such as forestry, carbon is stored in the soil, which helps reduce greenhouse gas emissions.
4. **Healthy foods:** By eliminating synthetic chemicals, organic farming allows you to grow healthy and safe food. This has a positive effect on human health.
5. **Avoid chemical residues:** The products contain less residues of pesticides and other harmful chemicals, which protects the health of consumers.
6. **Health through environmental improvement:** Organic farming contributes to the protection of the environment, which has a positive effect on the overall health of people.

V. Economic aspects

Wheat cultivation is agriculture that requires the least capital and labor Calculation of the crop. Out, Bosnia and Herzegovina Gertsegovinada A study was conducted, in which both The type of production – organic and traditional wheat cultivation – is carried out by family farms. Income and expenses **1 ga** calculated by field (**Table 1**):

<i>Wheat</i>	Organic (W1)	Traditional (W2)	The difference
Field (<i>ga</i>)	1	1	0
Dry clothes (medical history/ <i>ga</i>)	3 500	4 600	-1 100
Price (€ medical history ⁻¹)	0,46	0,29	0,17
<i>Har ga</i> Subsidies for (€)	102	102	0
<i>Har</i> medical history Subsidies for (€)	0	118	-118
Income (€)	1 764	953	811
Seeds/Seedlings (€)	256 (21,5%)	51 (6,4%)	205
Fertilizer (€)	128 (10,7%)	194 (24,2%)	-66
Pesticide sidels (€)	0	26 (3,2%)	-26
Equipment cost (€)	450 (37,8%)	481 (59,9%)	-31
Certification costs (€)	307 (25,7%)	0	307
Labor expenses (€)	0	0	0
Other expenses (€)	51 (4,3%)	51 (6,4%)	0
Depreciation and amortization costs (€)	0	0	0
Total costs (€)	1 192 (100%)	803 (100%)	389
<i>Sof foyda</i> (€)	572	150	422
<i>ProfitableLeague</i> (%)	32,4%	15,7%	16,7%

Table 1. Economic differences between organic and conventional wheat cultivation.

Organic wheat cultivation is more financially profitable than the traditional method, mainly due to the ability to process the product and sell it at a higher price. An organic producer sold wheat grain as flour instead of selling it. Therefore, organic wheat **1 ga** for Telugu Disambiguation pages **1,1 t/ga kam** Even if it is, Income **85 %high** That was. The main reason for this is the production of organic wheat **3 baravar qimmat** is for sale in price.

Subsidies and expenses

Organic producers received fewer subsidies from the state than traditional farmers. This is **1 medical history** due to the lack of additional payment and the processing of both types of wheat on one farm.

Also, the costs of growing organic wheat are higher, **389 Euroand** greater It was. The main reason for this is **Sertifikatlash and techniques** Expendituresthiss Share of common costs **63,5 %**Ini of the organization. In addition, organic seeds are more expensive than traditional seeds. Fertilization costs have decreased slightly, as chemical fertilizers have been replaced by organic fertilizers. The use of pesticides, on the other hand, has been completely eliminated.

Trade & Rentabellik

One of the most important factors in organic wheat cultivation is the ability to sell it at a high price. Although the production costs are lower in the traditional way, the net profit due to the high selling price of organic wheat Yield Organic Believe **32,4%**, In the traditional way, only **15,8%** organized by. Although there is a lot of organic farming costly and traditional farming, albeit low-yielding, **16,7%** differ in a positive result. In addition, we need to take into account its benefits for human health.

In general, organic wheat cultivation is more expensive Nevertheless,Disambiguation pages with short descriptions At the same time, for organic producers, the opportunity to sell the product at a higher price in the market is crucial.

Table below **Growing tomatoesalso Organic and Traditional Methods of economic analysis**Ini binders (Table 2):

Tomato cultivation was carried out in greenhouse conditions, organic and traditional farming methods were compared. Calculations **500 m²** field-based.

Of Organically Grown Tomatoes **1 medical history narxi 0,77 Euro** If it is grown in the traditional way, **0,46 Euro** Sold to. As a result, productivity is lower (**2,3 tn Came**), general **income 582 to Euro** Was high.

Subsidy and expenses

Seed in organic cultivation narxi **65 Euro** greaterJump to search In the traditional way, **Artificial fertilizers and pesticides for Greater cost charged** (fertilization cost) **141 Euro** higher, while pesticides **21 Euro** leaving).

Also **Labor costs are higher organically Boulder 164 Euroand** was more than. In organic production Sertifikatlash ham **157 Euroth** Brought additional costs.

Tomato	Organic (T1)	Traditional (T2)	The difference
<i>Area (m²)</i>	500	500	0
<i>Yield (medical history)</i>	5 400	7 735	-2 335
<i>Price (€ medical history⁻¹)</i>	0,77	0,46	0,31
<i>Income (€)</i>	4 141	3 559	582
<i>Seed/Seedling (€)</i>	460	395	65
<i>Fertilizer (€)</i>	77	217	-141
<i>Pesticide sidels (€)</i>	158	180	-21
<i>Equipment cost (€)</i>	20	0	20
<i>Salary (€)</i>	736	573	164
<i>Sertifikatlash (€)</i>	157	0	157
<i>Other expenses (€)</i>	364	311	54
<i>Amortizatsiya (€)</i>	410	405	5
<i>Total costs (€)</i>	2 381	2 105	276
<i>Sof foyda (€)</i>	1 760	1 454	306
<i>Rentabelligi (%)</i>	42,5%	40,8%	1,7%

2-Table. Organic & Traditional tomato Economic differences between cultivation.

When all expenses are summed up, Common costs of growing organic tomatoes **276 Euro** And it was higher.

Net profit in organic tomato cultivation despite high overall costs **1 760 Evror** Jump to navigation **306 Euro high** Beby. As a result **Rentabelligi Organic Believe 42,5 %, and in the traditional way 40,8 %** organizeby.

Info: In accordance with the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 826 dated December 31, 2020, the Export Promotion Agency provides financial assistance to exporting organizations. **The main financial assistance covers the following areas:**

1. Costs of implementing standards and obtaining certification

- Local and international certification of products
- Conformity assessment
- Testing of product samples in laboratories
- Implementation of international standards

2. Amount of financial assistance:

- **100% is covered**, but for each international certificate **20 ming United States doll.and should not exceed.**
- If the organization has received a certificate directly on the basis of a contract, then the value of the contract **80% gacha** will be reimbursed, but not of the total amount **50% not more than** need.
- Promote local products and brands (**Tovar Belgilarini**) in the direction of presentations and advertising campaigns in order to bring them to foreign markets — **100%** amount, but in one calendar year to the exporting organization **20 ming AQSh doll.and** A small amount;
- in the direction of registration of local products and brands (trademarks) with foreign authorized bodies — **100%**, but for one exporting entity **10 ming AQSh doll.and** A small amount;

This solution allows exporters to produce products that meet international standards and provides financial assistance for obtaining a certificate.

VI. Conclusion

Due to the fact that organic tomato cultivation is sold at a higher price, albeit lower than the traditional method in terms of yield **Greater overall benefit**. At the same time **The possibility of sale in organic production is very important** It requires the sale of products at a high price. If the demand for organic products in the market is low, the producer may have difficulties.

As a result **Organic tomato cultivation is more profitable than the traditional method**. But this **It depends on the price and demand in the market**.

- Retrieved 2015-07-20. **Income and profit Is More.**
- In organic cultivation **Higher labor and certification costs**, but less pesticide and fertilizer costs.
- **Benefits Yield A little higher in the organic way (42,5%)**, which makes this method financially advantageous.
- **Organic products depend on market demand** This method is used if customers are willing to pay more for organic products Expand Zoom It is possible.

Biofauna *This is a complex of living organisms that are important for agricultural and ecological systems. This concept mainly includes beneficial insects, microorganisms and other biological agents that play an important role in increasing soil fertility, pest control and maintaining the natural balance of the ecosystem OhThat was it.*

The role of biofauna in agriculture

1. **Organic farming:** Biofauna Organic Village xOhTamil Nadu zararkunandalarga Versus wrestling va soil unumdorligi Telugu for Used.
2. **International Standards va Sertifikatlash:** Organic Product Cultivation for international Certifications request will be (for example, **HAD Organic, USDA Organic, JAS, Halal**). Such Certificate withdraw for biofaunadan usage Important is.

3. Ecological Protection: Biofaunadan usage Chemical Fertilizer va PesticidesLong Acknowledge the need Tamil Nadu, Surroundings- Environment Protection Make help of the Ministry of Internal Affairs of International standards for agricultural products are divided into different directions and are aimed at ensuring the quality, safety and environmental sustainability of products.

Uzbekistan produces and exports agricultural products that meet the following international standards:

Standard	Standard but'Wears	Products
GLOBAL G.A.P	Good Agricultural Practices – It's fine Village xOhFarms Practices	Pomegranate, grape, cherry, peach, melon, lemon
HACCP	Hazard Analysis and Critical Control Points – Risk Analysis va Important Control Points System	Meva-Vegetable, Dry Meva, gOhsht, how Products
ISO 28000	Food-Food Security Management System	Organic Products, Cotton org'and, my-sabzavotlar
ORGANIC	Organic Product Certificates – HAD Organic, USDA Organic, JAS Organic	Ag'white, pistachio, pomegranate, grape, palm
HALAL	Islamic requirements compliance Certificates – SMIIC, WHAT, GSO Halal	GOhsht, how Products, Chandelier Products

Uzbekistan continues to implement these standards in order to remain competitive in the international market.

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