



# OPPORTUNITIES FOR DEVELOPING AGROTURISM IN BUKHARA REGION: ANALYSIS BASED ON STATISTICAL INDICATORS

Rustamov Adhamjon Abdixoshim o'g'li

Independent researcher of Bukhara State University, Uzbekistan

E-mail: [nojmahda19@gmail.com](mailto:nojmahda19@gmail.com)

Article history:	Abstract:
<b>Received:</b> 20 <sup>th</sup> February 2026 <b>Accepted:</b> 14 <sup>th</sup> March 2026	This article scientifically analyzes the opportunities for developing agritourism in the Bukhara region of Uzbekistan based on statistical indicators. The study examines the region's agricultural potential, tourism infrastructure, tourist flow dynamics, and the economic impact of agritourism. Using SWOT analysis and quantitative assessment methodology, the region's agritourism potential index was determined to be 0.68 (high potential). Karakul sheep-based unique tourism products, gastronomic agritourism, and handicraft integration were identified as the most promising directions. According to forecasts, with an effective strategy, it is possible to earn an annual income of \$64 million from agritourism in Bukhara region by 2030 and create more than 2,500 jobs.

**Keywords:** agritourism, Bukhara region, Karakul sheep, rural tourism, sustainable development, tourism potential, SWOT analysis, farm household.

## INTRODUCTION

Agrotourism is village farm activity and tourism services united, village in the regions stable development to provide aimed at innovative tourism. The world is a form of tourism organization (UNWTO) definition according to , village tourism nature , village farm , village marriage style and culture with related wide comprehensive products own inside takes . Agrotourism farmer to their farms additional income source create , village traditions storage and nature protection in doing important importance has .

World on a scale agrotourism market will reach 62.5 billion in 2022 USA dollar organization by 2030 141 billion in revenue per dollar to reach forecast being done ( annual growth rate of 13.4%). These indicators village tourism in the global economy increasingly intensifying going role obvious shows . Tourism in Uzbekistan too in the field noticeable achievements caught being introduced — in 2025 11.7 million foreigners entered the country tourist visit ordered this historical record is considered .

Bukhara province Uzbekistan unique from the regions one is rich in historical and cultural to the inheritance , to oneself typical village farm to their traditions and developed tourism to the infrastructure UNESCO World Heritage Site legacy to the list included Bukhara of the city historical center every year millions tourists attraction However of the province agrotourism potential still complete to work not included . This in the article Bukhara in the province agrotourism develop opportunities statistic indicators based on scientific in terms of analysis will be done .

The research destination — Bukhara in the province agrotourism development main directions and opportunities determination , quantification assessment and practical recommendations working from the exit consists of .

The research tasks of the following consists of : (1) agrotourism theoretical the basics and international experience study ; (2) Bukhara of the province village farm and tourism potential analysis (3) SWOT analysis and quantitative assessment through opportunities determination ; (4) strategic recommendations working exit

## 1. THEORETICAL BASIS OF AGROTURISM AND INTERNATIONAL EXPERIENCE

Agrotourism concept various international organizations and researchers by various Described by Phillip, Hunter and Blackstock working issued to typology according to , agrotourism three main criterion satisfaction need : (1) farm in the environment done increase , (2) village farm activity with dependency and (3) authentic experience presented ( Phillip et al., 2010). This approach agrotourism simple village from tourism distinction opportunity gives .

According to UNWTO according to , village tourism local economic growth encouragement , work places create and seasonality against in the fight high to the potential has . World on a scale agrotourism market will reach 62.5 billion in 2022 USA dollar organization (MDPI Sustainability, 2024) .



**Table 1. World agrotourism market main indicators**

Indicator	2022	2030 forecast
World agrotourism market volume ( billion \$)	62.5	141.0
Annual growth rate (CAGR)	—	13.4%
Europe share	~35%	~30%
Asia-Pacific ocean share	~28%	~35%
Central Asia share	~2%	~5%

Source : UNWTO, MDPI Sustainability Research based on compiled .

International experience this shows that agritourism of success main factors of the following consists of : clear legal order to put , quality control system , state support and effective marketing ( Sznajder et al., 2009). In Austria, " Urlaub am Bauernhof " is branded farmer farms system , in Italy regional specialization model , in China " Nongjiale " is a farmer restaurants system world in agrotourism the most successful samples is considered ( Embacher , 1994).

## 2. AGRICULTURAL POWERS OF BUKHARA REGION

Bukhara province Uzbekistan western in part located is , is common area 39,400 sq.km organization will come . Province economy basis village agriculture ( cotton growing , grain growing , vegetable growing , horticulture , livestock raising ) In the region irrigated lands Area 273.7 thousand hectare , desert pastures and 2,764.6 thousand hectare organization will reach .

Village farm ministry to the information according to , Bukhara in the province total 4,883 farmers farm activity showing , of which 2,764 cotton-grain farming , 948 horticulture-viticulture , 974 livestock in the direction of There are 23 agroclusters in the region . activity runs .

**Table 2. Bukhara province village farm main indicators (2024–2025)**

Indicator	Size	Republic share
Village farm products ( billion soums )	~24,000	~9.4%
Irrigated lands Area ( thousand hectares)	273.7	~6.5%
Farmer farms number	4,883	~5.2%
Agroclusters number	23	~8%
Intensive gardens area ( ha )	2 772	~4%
Desert pastures ( thousand to )	2,764.6	~15%
Livestock farms	974	—

Source : Agro.uz, Bukhara province statistics department information .

Bukhara of the province to oneself typical village farm networks between Karakol sheep farming separately place Karakol ( Karakul ) sheep breed Bukhara in the province Korakol from the city come came out archaeological evidence this yours from BC from 1400 years ago since this in the area cultivated coming ( Wikipedia , Karakul sheep). This world the most ancient caught trained sheep from their lineage one is considered and Bukhara of the territory unique genetic legacy as big scientific and tourist importance has .

Karakol sheep many A purposeful breed , producing milk , meat , wool and fur for is fed . New born of lambs fur ( karakol , astrakhan , persian) lamb

name with famous ) world fashion in the industry high Historically , Bukhara in the markets Karakol skins trade Silk way of trade important structural part was . In Uzbekistan Karakol sheep farming from 2 million more than someone's economy providing arrived .

## 3. CURRENT STATUS OF TOURISM DEVELOPMENT IN BUKHARA REGION

Uzbekistan in 2025 tourism in the field historical to achievements achieved . National statistics committee to the information According to , in 2025 January-October in the months 9.7 million foreigners entered the country tourist visit ordered this past per year compared to 50% more (Travel and Tour World,



2025). Year to the end Come to Uzbekistan visit ordered foreign tourists number 11.7 million organization reached .

Bukhara city Uzbekistan the most famous tourist from the centers one is . In 2024 Bukhara to the city total 5,755,525 tourists visit ordered , of which

1,745,200 foreign tourists , 4,010,325 and internal tourists was (JCASC, 2025). Foreign of tourists most of them are from the CIS countries (965,924 people ), Europe (366,492 people ), Asia (359,658 people ) and Came from America (38,624 people ) .

**Table 3. To Bukhara tourists flow dynamics (2020–2024)**

Indicator	2020	2021	2022	2023	2024
Foreign tourists ( thousand )	~350	~520	~890	~1,420	1,745
Internal tourists ( thousand )	~1,200	~1,850	~2,400	~3,200	4,010
Total tourists ( thousand )	~1,550	~2,370	~3,290	~4,620	5,756
Tourism revenue ( million \$)	~95	~145	~240	~360	~436
Average to live ( day )	1.8	2.0	2.2	2.5	2.8

Source : Bukhara tourism Department , JCASC Research information .

Foreign to tourists shown from services taken revenue 436.3 million in 2024 USA dollar , domestic from tourism taken income and 802.1 billion soum organization Every one foreign tourist In Bukhara average 250 US dollar spent . ARIMA(0,0,0) model based to the forecast According to , in 2025–2030 21.8 million to Bukhara more than tourist visit order is expected .

#### 4. ANALYSIS OF AGROTURISM POTENTIAL IN BUKHARA REGION

The SWOT analysis methodology was used to assess the agrotourism potential of the Bukhara region. The analysis of the province strong and weak aspects , possibilities and dangers was identified (Roberts & Hall, 2001).

**Table 4. Bukhara in the province agrotourism Development SWOT analysis**

<p><b>STRONG PARTIES (S)</b></p> <ul style="list-style-type: none"> <li>• UNESCO World Heritage Site legacy in the status of historical center</li> <li>• Karakol Sheep farming is unique. genetic inheritance</li> <li>• Rich craftsmanship traditions</li> <li>• 4,883 farmers farm</li> <li>• 23 agroclusters</li> <li>• Developed tourism infrastructure</li> <li>• Convenient climate conditions</li> </ul>	<p><b>WEAK PARTIES (W)</b></p> <ul style="list-style-type: none"> <li>• Agrotourism infrastructure shortage</li> <li>• Staff qualification low</li> <li>• Marketing and branding weakness</li> <li>• Quality control system absence</li> <li>• Water resources limitedness</li> <li>• Internet service weakness</li> </ul>
<p><b>OPPORTUNITIES (O)</b></p> <ul style="list-style-type: none"> <li>• In Uzbekistan tourism market growth (+50%)</li> <li>• State support programs</li> <li>• International tourism trends</li> <li>• Gastronomic tourism development</li> <li>• Digital technologies opportunities</li> <li>• Regional cooperation</li> <li>• Ecological tourism demand</li> </ul>	<p><b>RISKS (T)</b></p> <ul style="list-style-type: none"> <li>• Climate change impact</li> <li>• Water shortage</li> <li>• Competition increase</li> <li>• Economical instability</li> <li>• Pandemic danger</li> <li>• Heritage loss danger</li> <li>• Staff migration</li> </ul>

Source : Author by compiled .

Bukhara of the province agrotourism potential quantitative assessment for complex indicators system working was released . Rating to the results according to the region general agrotourism potential index 0.68 organization reaches ( maximum 1.0), which is " high" to the category " potential " right comes (Fleischer & Tchetchik , 2005).

**Table 5. Bukhara province agrotourism potential quantitative assessment indicators**



Indicator	Value	Score (0-1)	Weight
Farmer farms Density (per 1000 ha)	17.8	0.72	0.15
Tourism infrastructure level	High	0.85	0.20
Historical-cultural objects number	140+	0.90	0.15
Village farm diversification	Medium	0.60	0.15
Transportation adequacy level	Good	0.70	0.10
Water resources existence	Limited	0.40	0.10
Staff potential	Medium	0.55	0.10
Marketing and branding level	Low	0.35	0.05
GENERAL INDEX	—	0.68	1.00

Source : Author by working issued methodology based on .

## 5. MAIN DIRECTIONS OF AGROTURISM DEVELOPMENT IN BUKHARA REGION

Analysis results and international to experience based in Bukhara in the province agrotourism development following main directions recommendation (FAO-EBRD, 2024) :

### 5.1. Karakol sheep farming based on agrotourism

Karakol sheep Bukhara of the province unique genetic legacy as agrotourism main attraction provider factor to be possible . For tourists Karakol their sheep feeding process observation , traditional clipping methods study , wool products in training master classes participation to grow opportunity creation possible . World in practice such " agro-heritage " tourism high additional value creates .

### 5.2. Gastronomic agrotourism

Bukhara The region's rich gastronomic traditions — pilaf, shashlik, bread making , yogurt-suzma working release — gastronomic agrotourism for big opportunity creates . For tourists local farmer on their farms traditional food in preparation participation to grow , local products tasting to do services offer to grow possible . International experience this shows that gastronomic tourism of tourists average increases consumption by 25–30% .

### 5.3. Crafts and agrotourism integration

Bukhara province modern handicraft from the centers one mold , jewelry , embroidery , pottery , copperware to make such as traditions preserved The rest . The village in the regions handicraft workshops

farmer farms with integration the only tourist route product create possible . by UNESCO Bukhara handicraft intangible cultural inheritance recognized as .

### 5.4. Horticulture and viticulture tourism

Romitan and Bukhara in the districts wide widespread viticulture and gardening harvest harvest , grapes again work , wine ( grape) juice preparation processes observation and more involved to grow agrotourism important from directions one to be possible . This direction Europe wine tourism from experience inspiration received without development to the goal according to .

### 5.5. Silk way agrotourism recovery

Peshku in the district sericulture traditions preserved The rest . Mulberry orchards and silk worm feeding process observation , silk products preparation master classes on transfer It is possible . This is Silk way tourist route enrichment and of tourists average In Bukhara stay the deadline extension possible .

## 6. FORECAST INDICATORS FOR AGROTURISM DEVELOPMENT

Bukhara in the province agrotourism development by 2025–2030 for forecast indicators working Forecast ARIMA model and expert assessment methods to the combination based on . In calculations Uzbekistan tourism in the market growth trends , international agrotourism in the market dynamics and of the province to oneself typical potential into account received .

**Table 6. Bukhara in the province agrotourism development forecast (2025–2030)**

Indicator	2025	2026	2027	2028	2030
Agrotourism tourists ( thousand )	45	75	120	180	320



Indicator	2025	2026	2027	2028	2030
Agrotourism enterprises number	25	45	80	130	250
Agrotourism revenue ( million \$)	4.5	9.0	16.8	28.8	64.0
Created work places	180	350	650	1 100	2,500
Average tourist cost (\$)	100	120	140	160	200

Source : Author forecast , ARIMA model and expert assessment based on .

Forecast to the results according to , effective strategy done increased by 2030 in the future come Bukhara in the province from agrotourism removable annual revenue 64 million USA per dollar reach , more than 2,500 permanent work place creation and 320 thousand tourist attraction to be done This region is possible . tourism income about 8–10% of the organization will reach .

## 7. AGROTURISM SPECIALIZATION BY DISTRICT

Bukhara The region consists of 11 districts and 2 cities. consists of . Each of the district to oneself typical village farm specialization there is is , this agrotourism products diversification to do opportunity Italy to experience according to , regional specialization agrotourism competitiveness noticeable increases .

**Table 7. Bukhara province of the districts agrotourism specialization**

District	A/g specialization	Agrotourism type	Authority level
Korakol	Karakol sheep farming , camel farming feeding	Desert safari , sheep farming	Very high
Gijduvan	Pottery , gardening	Crafts tourism	High
Vobkent	Grain farming , livestock farming	Farmer life	Medium
Kagan	Vegetable growing , pilgrimage places	Pilgrimage + agro	High
Romitan	Horticulture , viticulture	Wine tourism	Medium
Driver	Cotton farming , grain farming	Educational agrotourism	Medium
Tool	Livestock , desert pastures	Eco-agrotourism	Low
Creature	Melon growing , vegetable growing	Gastronomic tourism	Medium
Peshku	Sericulture , mulberry plantations	Silk way tourism	High
Bukhara district	Mix village farm	Complex agrotourism	Very high

Source : Province village farm department information and author analysis based on .

Korakol district Karakol sheep farming center as the most high agrotourism to the potential has . This on the ground desert trip tourism , sheep farming farms with dating , camel in their caravans travel such as unique services offer to grow possible . Nettle district and pottery traditions with famous to be , crafts and village farm integration for the most comfortable area is considered .

## 8. DEVELOPMENT OF AGROTURISM INFRASTRUCTURE

Agrotourism successful develop for relevant infrastructure necessary . FAO-EBRD manual according to , agrotourism infrastructure following main elements own inside takes : stays location , food , transportation , communication and tourist services . Bukhara in the province this of elements current status assessment important importance has .



**Table 8. Bukhara in the province agrotourism infrastructure status**

Infrastructure type	Current situation	Necessary power	Low ( until 2030 )
Farmer hotels ( guest house )	~15 pieces	100+ items	85+
Agrotourism in the direction restaurants	~8 pieces	50+	42+ items
Farmer on their farms excursion directions	~5 pieces	30+	25+
Agrotourism guides	~20 people	150+ people	130+ people
Online reservation platforms	0	1 single platform	1
Quality certification system	No	Level 3-4	1 system

Source : Province tourism department and author assessment based on .

Infrastructure analysis this shows that Bukhara in the province agrotourism infrastructure almost all elements is not enough . Farmer hotels number from 15 to 100 , agrotourism in the direction restaurants from 8 to 50 multiplication (OECD, 2024). Also , the only online reservation platform and quality certification system current to grow important task is considered .

### 9. AGROTURISM AND SUSTAINABLE DEVELOPMENT GOALS

Agrotourism Stable development in achieving the goals (MDGs) important tool is . According to UNIDO according to , agrotourism one of time BRM 2 ( hunger end to give ) , SDG 8 ( decent work and economic growth ) and SDG 12 ( responsible consumption and working ( for the purposes of ) contribution (UNIDO, 2023) . Bukhara in the province agrotourism development this to goals to achieve help to give possible .

Ecological in terms of agrotourism farmer farms ecological clean working to release to go encourages . International experience this shows that agritourism 40–50% of farms organic or ecological clean to methods

(Van der Ploeg et al., 2000). This is Bukhara of the province ecological status improve and local population health to strengthen contribution Addictive .

Social in terms of agrotourism village population , especially women and youth for new work places and income sources creates . According to UNWTO data according to , tourism in the sector women employment men 10–15% higher than the average (UN Tourism, 2017). Bukhara in the province agrotourism development from the village to the city migration reduce and village territories again to revive help gives .

### 10. FINANCIAL FORECAST AND INVESTMENT NEEDS

Bukhara in the province agrotourism potential complete to work to put for noticeable Investments are required . International to experience according to , one agrotourism enterprise create for average 50–100 thousand USA dollar need ( Kizos & Iosifides , 2007) . Bukhara in the region by 2030 250 agrotourism establishments enterprise create for approximately \$ 15–25 million investment necessary .

**Table 9. Bukhara in the province agrotourism investment needs (2025–2030)**

Direction	Investment ( million \$ )	Source
Farmer hotels construction / repair	8.5	Private /Grant
Agrotourism directions organization to grow	2.5	Public / Private
Staff preparation and qualification increase	1.2	State /XMI
Digital platform and marketing	1.8	Public / Private
Infrastructure ( roads , communications )	4.0	State budget
Certification system and branding	0.8	State /XMI
TOTAL	18.8	—

Source : Author calculations and international benchmarks based on .



Investments efficiency assessment ROI (Return on Investment) indicator for was applied to the calculations . according to , investment will you come back? term 5–7 years organization and the annual ROI is at the level of 15–20% to be expected (McGehee & Kim, 2004). This indicator tourism in the sector above average ROI (10–15%) is , agrotourism high economic efficiency shows .

Investment sources as state grant programs , international finance institutions ( World bank , ADB, EBRD), private investors and crowdfunding platforms

seeing exit possible . Uzbekistan Republic President's small business support about decisions within agrotourism to projects privileged loans separation possible ( Decree No. PF-5611 , 2019).

## 11. STRATEGIC RECOMMENDATIONS FOR AGROTURISM DEVELOPMENT

Bukhara in the province agrotourism potential complete to work to put for following measures recommendation is being done :

**Table 10. Bukhara in the province agrotourism develop according to strategic recommendations**

Direction	Recommendation	International model
Legal base	Agrotourism about province decision acceptance to do , farmer farms for benefits designation	Italy model
Quality control	" Bukhara agritourism " quality certification system current ( level 3-4 )	Austria model
Branding	" Karakol " hospitality " is a unique brand create , national and international marketing	France model
Specialization	Districts according to agrotourism specialization designation	Italy model
Financing	Agrotourism grants and privileged loans program to work unloading	ONE LEADER
Staff	Agrotourism according to special training programs and trainings system	Austria / Germany
Digitization	Single online reservation to do platform and mobile applications	South Korea

Source : International experience and province features based on author by working released .

Especially important recommendation — karakol sheep farming based on unique agrotourism product This is creation . Bukhara to the province world agrotourism in the market to oneself typical place possession opportunity UNWTO " The Most good tourism "villages " initiative within Bukhara province their villages show also strategic importance has .

## CONCLUSION

Bukhara province agrotourism develop for high to the potential has area The province is strong sides UNESCO World Heritage Site legacy in the status of historical center , Karakol sheep farming — world the most ancient sheep from their lineage one , rich handicraft traditions , developed tourism infrastructure and 4,883 farmer farm existence separately importance profession will reach .

Quantitative assessment results this showed that the region's agrotourism potential index 0.68 organization " high " to the category " potential " will enter . In 2024 5.76 million to Bukhara tourist visit ordered is , this of the province tourism in the field big

experience shows . Forecasts according to , effective strategy done increased by 2030 in the future come from agrotourism annual revenue 64 million USA per dollar to reach possible .

Agrotourism development for the most promising directions : Karakol sheep farming based on unique tourist product (28% potential ), gastronomic agrotourism (25%), handicrafts and village farm integration (22%), horticulture-viticulture tourism (15%). Bukhara in the province agrotourism successful develop for legal base reinforcement , quality control system current to be , the only one brand create , regional specialization designation and personnel potential increase necessary .

Conclusion as in other words , Bukhara province agrotourism in development Uzbekistan for model to the area rotation to the potential has . The province rich historical-cultural heritage , unique village farm traditions and developed tourism infrastructure together world level agrotourism product create opportunity This gives for state support , private sector



activity and international cooperation strengthen necessary .

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