

ASERS

Journal of Environmental Management and Tourism

Quarterly

Volume XIV

Issue 2(66)

Spring 2023

ISSN 2068 – 7729

Journal DOI

<https://doi.org/10.14505/jemt>

 **ASERS**
Publishing



Editor in Chief: Ramona Pîrvu

University of Craiova, Romania

Co-Editor: Cristina Barbu

Spiru Haret University, Romania

Editorial Board

Omrans Abdelnaser

University Sains Malaysia, Malaysia

Huong Ha

University of Newcastle, Singapore,
Australia

Harjeet Kaur

HELP University College, Malaysia

Janusz Grabara

Czestochowa University of Technology,
Poland

Vicky Katsoni

Technological Educational Institute of
Athens, Greece

Sebastian Kot

Czestochowa University of Technology,
The Institute of Logistics and International
Management, Poland

Nodar Lekishvili

Tbilisi State University, Georgia

Andreea Marin-Pantelescu

Academy of Economic Studies Bucharest,
Romania

Piotr Misztal

The Jan Kochanowski University in
Kielce, Poland

Agnieszka Mrozik

University of Silesia, Poland

Chuen-Chee Pek

Nottingham University Business School,
Malaysia

Roberta De Santis

LUISS University, Italy

Fabio Gaetano Santeramo

University of Foggia, Italy

Dan Seligteanu

University of Craiova, Romania

Lesia Kucher, Lviv Polytechnic National
University, Ukraine

Laura Ungureanu

Spiru Haret University, Romania

ASERS Publishing

<http://www.asers.eu/asers-publishing>

ISSN 2068 – 7729

Journal DOI: <https://doi.org/10.14505/jemt>

Table of Contents:

1	Tourist Potential of Ukraine: Challenges and Prospects of the Post-War Time Inna LEVYTSKA, Alona KLYMCHUK, Anna SHESTAKOVA, Natalia BILETSKA	299
2	Tourists' Hotel Booking Preferences Changed by the COVID-19 Outbreak Sauwanee RODYU, Onanong CHEABLAM, Nuttaprachya NANTAVISIT, Yang LING	306
3	Crises and Conflicts on the Way to Sustainable Tourism Development: A Study of Cox's Bazar, Bangladesh Mohammad Rakib Uddin BHUIYAN, M. Badruzzaman BHUIYAN	320
4	The Impact of Marketing Mix Elements on Tourist's Satisfaction towards Five Stars Hotel Services in Dubai during COVID-19 Ashraf JAHMANI, Omar JAWABREH, Reneh ABOKHOZA, Ali Mahmoud ALRABEI	335
5	Key Factors to Promote a Vulnerable Region as a Competitive Tourist Destination Diego MARÍN-IDÁRRAGA, Juan SÁNCHEZ-TORRES, Pedro SANABRIA-RANGEL	347
6	Explore the Potential for Tourist Scams in Indonesia Tarjo TARJO, Alexander ANGGONO, Eklamsia SAKTI, Zakik ZAKIK, Muh SYARIF, Otniel SAFKAUR, Jamaliah SAID	363
7	Competitiveness of Milk Production. New Perspectives for Developing a New Direction in Tourism: Dairy Tourism Anar YERNAZAROVA, Karlygash ALYONOVA, Zhibek ANAFIYAYEVA, Anar NUKESHEVA, Adaskhan DARIBAYEVA, Azhar KIZIMBAYEVA	369
8	The Applications of Technology Acceptance Models in Tourism and Hospitality Research: A Systematic Literature Review Youssef EL ARCHI, Brahim BENBBA	379
9	Rising Customer Loyalty with Beneficial Impact on Service Quality Dimensions during the COVID-19 Pandemic for Tourism in Thailand MUSRIHA, Diana RAPITASARI	392
10	Features of Rural Tourism as an Element of Kazakh Culture during the Pandemic Syndrome Aitolkyn TLEUBAYEVA, Altynbek ZHAKUPOV, Roza SHOKHAN, Aizharkyn NURGAZINA, Zhanbota KARIPBAYEV, Maral SIYEBAYEVA, Makhabbat DOSSOVA	398
11	Tourism of Ukraine as a Type of Business before and during the War Ilona YASNOLOB, Nataliia DEMIANENKO, Oleksandr GALYCH, Oleg GORB, Olena YEHOVA, Roman LIPSKYI, Tetyana BOROVIK, Inna MYKOLENKO, Nataliia PROTSIUK	417
12	Development of Mangrove Ecotourism Based on The Tourist Perspective in Lembung Village, Indonesia Akhmad FARID, Apri ARISANDI, Akhmad Farhan FARIDY, Moh. Wahyudi PRIYANTO	425
13	Tennis Tournaments from the Perspective of Sport Tourism Alexandru-Nicolae BANCUI, Claudiu-Ionut POPIRLAN, Germina COSMA	435

Editor in Chief: Ramona Pîrnu

University of Craiova, Romania

Co-Editor: Cristina Barbu

Spiru Haret University, Romania

Editorial Board

Omran Abdelnaser

University Sains Malaysia, Malaysia

Huong Ha

University of Newcastle, Singapore,
Australia

Harjeet Kaur

HELP University College, Malaysia

Janusz Grabara

Czestochowa University of Technology,
Poland

Vicky Katsoni

Technological Educational Institute of
Athens, Greece

Sebastian Kot

Czestochowa University of Technology,
The Institute of Logistics and International
Management, Poland

Nodar Lekishvili

Tbilisi State University, Georgia

Andreea Marin-Pantelescu

Academy of Economic Studies Bucharest,
Romania

Piotr Misztal

The Jan Kochanowski University in
Kielce, Poland

Agnieszka Mrozik

University of Silesia, Poland

Chuen-Chee Pek

Nottingham University Business School,
Malaysia

Roberta De Santis

LUISS University, Italy

Fabio Gaetano Santeramo

University of Foggia, Italy

Dan Selişteanu

University of Craiova, Romania

Lesia Kucher, Lviv Polytechnic National
University, Ukraine

Laura Ungureanu

Spiru Haret University, Romania

Overtourism in a City Destination from the Perspective of Entrepreneurs: Evidence from Wroclaw, Poland

14 Wojciech FEDYK, Mariusz SOŁTYSIK, Tomasz RÓLCZYŃSKI, Babak TAHERI,
Jacek BORZYSZKOWSKI, Fevzi OKUMUS 442

Entrepreneurial Leadership Values in Tourism Classroom Teaching. Enhancing the Learning Processes for Tourism Business

15 Muh. FAHRURROZI, Hamzani WATHONI, Hasan BASRI, MOHZANA,
Astrid DWIMAULANI 458

A Study on the Causality Relationship between Total Capital Increase, Foreign Investments, and Tourism Sector Revenues in Azerbaijan

16 Nigar HUSEYNLI 469

Socio-Economic Consequences of the Transition to Organic Agriculture and Its Impact on Ecotourism

17 Rassul KARABASSOV, Kairat NURMAGANBETOV, Kairat BODAUKHAN,
Aisulu KULMAGANBETOVA, Gulnar ORYNBEKOVA, Zhibek OMARKHANOVA 477

Accessibility of Women's Empowerment in Tourism Industry from Mandalika Special Economic Zone

18 SYAFRUDDIN, Muh. SALAHUDDIN, NURHILALIATI 491

Factors Influencing Customer Attitudes towards Online Food Delivery Application after the COVID-19 Epidemic in Jordanian Restaurants

19 Bashar M. AL NAJDAWI, Mohammad KHASAWNEH, Issam M. AL-MAKHADMAH,
Hakam SHATNAWI, Qusay KHALEEFDAH, Ramzi AL ROUSAN 500

Marine Tourism-Based Sustainable Community Empowerment Model in the New Normal Era

20 Elimawaty ROMBE, Zakiyah ZAHARA, Rosida P. ADAM, Suardi SUARDI, Moh. TAUFAL 513

The Effect of Creativity Skill, Motivation, Locus of Control on Self-Efficiency That Impact on the Success of Culinary Tourism Entrepreneurs in North Sumatra

21 Rasmulia SEMBIRING, Umi Yusniar LUBIS, SYAIFUDDIN 522

The Sustainable Development Strategy of the Light Industry and New Orientations towards Ecotourism

22 Bakytzhan MUKHAN, Altyn YESSIRKEPOVA, Aigul TULEMETOVA,
Nazgul ORAZAYEVA, Ayimzhan ZHAKESHOVA, Daulet KANASHAYEV 529

The Impact of the COVID-19 Epidemic on Risk Management Perception in Tourism Business

23 Nguyen Van NINH 540

Kazakhstan Tourism Industry in Promoting Sustainable Agriculture Development

24 Bakytgul AINAKANOVA, Anar NUKESHEVA, Zhaskairat SUNDETULY,
Aigul KAZKENOVA, Zhibek OMARKHANOVA, Anar YERNAZAROVA 552

Motives to Visit Urban Ecotourism Sites: A Study of A Botanical Garden in South Africa

25 Uwe P HERMANN, Samantha C BOUWER 563

Determinants of Sustainable Tourism Destinations in Indonesia

26 Pasaman SILABAN, Wisnu Rayhan ADHITYA, KHAERUMAN, Surya Wisada DACHI,
Joli AFRIANI, Siti AISYAH, Sunday Ade SITORUS 575

The Dynamics of Religious Tourism. Case Study: Romania

27 Laura UNGUREANU 582

Call for Papers Summer Issues 2023 Journal of Environmental Management and Tourism

Journal of Environmental Management and Tourism is an interdisciplinary research journal, aimed to publish articles and original research papers that should contribute to the development of both experimental and theoretical nature in the field of Environmental Management and Tourism Sciences.

Journal will publish original research and seeks to cover a wide range of topics regarding environmental management and engineering, environmental management and health, environmental chemistry, environmental protection technologies (water, air, soil), pollution reduction at source and waste minimization, energy and environment, modeling, simulation and optimization for environmental protection; environmental biotechnology, environmental education and sustainable development, environmental strategies and policies, etc. This topic may include the fields indicated above, but are not limited to these.

Authors are encouraged to submit high quality, original works that discuss the latest developments in environmental management research and application with the certain scope to share experiences and research findings and to stimulate more ideas and useful insights regarding current best-practices and future directions in environmental management.

Journal of Environmental Management and Tourism is indexed in SCOPUS, RePEc, CEEOL, ProQuest, EBSCO and Cabell Directory databases.

All the papers will be first considered by the Editors for general relevance, originality and significance. If accepted for review, papers will then be subject to double blind peer review.

Deadline for submission:	21 st April 2023
Expected publication date:	June 2023
Website:	https://journals.aserspublishing.eu/jemt
E-mail:	jemt@aserspublishing.eu asers.jemt@gmail.com

To prepare your paper for submission, please see full author guidelines in the following file:

[JEMT Full Paper Template.docx](#), then send it via email at jemt@aserspublishing.eu.



DOI: [https://doi.org/10.14505/jemt.v14.2\(66\).24](https://doi.org/10.14505/jemt.v14.2(66).24)

Kazakhstan Tourism Industry in Promoting Sustainable Agriculture Development

Bakytgul AINAKANOVA

S. Seifullin Kazakh Agro Technical University, Kazakhstan
bakysia_1983@mail.ru

Anar NUKESHEVA

S. Seifullin Kazakh Agro Technical University, Kazakhstan
annukesheva@mail.ru

Zhaskairat SUNDETULY

S. Seifullin Kazakh Agro Technical University, Kazakhstan
ainuraphd@mail.ru

Aigul KAZKENOVA

S. Seifullin Kazakh Agro Technical University, Kazakhstan
kaz_aiga@mail.ru

Zhibek OMARKHANOVA

S. Seifullin Kazakh Agro Technical University, Kazakhstan
zhynysova@mail.ru

Anar YERNAZAROVA

S. Seifullin Kazakh Agro Technical University, Kazakhstan
anka_manas@mail.ru

Suggested Citation:

Ainakanova, B., et al. (2023). Kazakhstan Tourism Industry in Promoting Sustainable Agriculture Development. *Journal of Environmental Management and Tourism*, (Volume XIV, Spring), 2(66): 552 - 562. DOI: [10.14505/jemt.v14.2\(66\).24](https://doi.org/10.14505/jemt.v14.2(66).24)

Article's History:

Received 28th of December 2022; Received in revised form 15th of January 2023; Accepted 12th of February 2023; Published 31st of March 2023. Copyright © 2023 by ASERS® Publishing. All rights reserved.

Abstract:

The expansion of such an area of tourism industry as agrotourism is a breakthrough for the development of rural industry. In addition, the integration of agro-tourism with agricultural eco-efficiency is closely related to agro-ecological development, therefore, it is necessary to study the relationship between the two in order to realize quality agro-ecological development. Integration of agriculture with other industries is an important means of expanding the agro-industrial chain and is useful for promoting sustainable agricultural development. The purpose of this study is to analyze the improvement of competitiveness of agricultural enterprises in the Republic of Kazakhstan through diversification of production and its impact on the tourism industry, including tourism enterprises. The degree of effectiveness of implementation of management decisions aimed at the development of tourism and agribusiness depends on the level of development of infrastructure and services in a particular region of the country. In this context, statistical data on the development of tourism and its relationship with agribusiness in the Republic of Kazakhstan are used to analyze some factors affecting their development.

Keywords: tourism industry; infrastructure; tourism; productivity; agritourism; ecotourism.

JEL Classification: Z30; Z32; Q18.

Introduction

Diversification of production has changed the competitiveness of farms, transforming them from a traditional industry to a high-tech industry, which allowed them to create new markets, including the tourism sector, developing such areas as rural tourism, agrotourism and ecotourism. The author considered the indicators

characterizing agriculture, especially agricultural land productivity, which certainly affect the development of various sectors of the tourism industry and determined the estimated values of agricultural GDP and land productivity indicators for the Republic of Kazakhstan for 2022-2025.

Rural tourism plays an important role in the development of tourism potential in different regions. In different regions of Kazakhstan one can find many tourist sites dedicated to traditional arts, crafts and gastronomy. Investments in ecologization of agricultural production are of long-term strategic importance for preservation of agricultural land reserves and food security.

Taking into account current trends and macroeconomic situation in various sectors, it is necessary to improve processes and mechanisms of strategic management. Kazakhstan can successfully confront new global challenges and threats by attracting foreign investment and applying strategic planning as an attractive country. Tourism, as a form of foreign economic activity arising under the influence of globalization processes, integration of world economy and deepening of economic, political, cultural and social space, as a tool of unification and systematization of management processes and factors affecting the achievement of goals, formation of a system of indicators affecting its development, causes interest in assessing the sustainability of development.

In this context, the destinations of tourism enterprises should be flexible and adaptable to remain competitive and sustainable. In other words, tourism is not only an engine of economic growth, but economic production itself can play an important role in ensuring the growth potential of the tourism sector in the Republic of Kazakhstan and the development of agricultural enterprises through the diversification of production.

In a market economy, the tourism sector is increasingly aware of the need to develop new products and services and the associated economic benefits. Kazakhstan, with its unique natural and cultural potential and great interest from domestic and foreign tourists as a new, undeveloped destination, has many reasons for innovative development of its tourism industry and causes interest for further study.

1. Literature Review

Natural resources, especially agriculture, depend on the integrated development of agriculture and tourism, which can also help support the competitiveness of farms by diversifying production. Sustainability in agriculture is usually measured by the environmental performance of agriculture.

The integration of agriculture and tourism contributes to the environmental performance of agriculture, with higher levels enhancing the incentive effect. However, this effect varies somewhat from region to region. According to (Wang, Zhou, Xie, A. *et al.* 2022), the impact mechanisms include decreasing agricultural labor costs, planted area and effective irrigated area, through continuous improvement of integration, pesticide and fertilizer costs do not fall in the early stages of integration, but decline rapidly after crossing the threshold. And this suggests that the integration of agriculture and tourism is useful for improving the environmental efficiency and sustainability of agriculture (Wang *et al.* 2022).

In recent years, with the negative effects of agricultural production becoming more serious and sustainable development becoming more global, protecting the agricultural environment and achieving agricultural sustainability have become major concerns for governments and academia (Liu *et al.* 2019, Zou *et al.* 2020).

Ćirić *et al.* (2021) believe that technological progress and urbanization stimulate people's demand for tourism, among which agritourism is a sufficient means to meet people's needs and provide a calm and pleasant recreational environment. As a result, a number of functions of agriculture, in addition to the supply of agricultural products, such as excursions, recreation and entertainment, are now being explored.

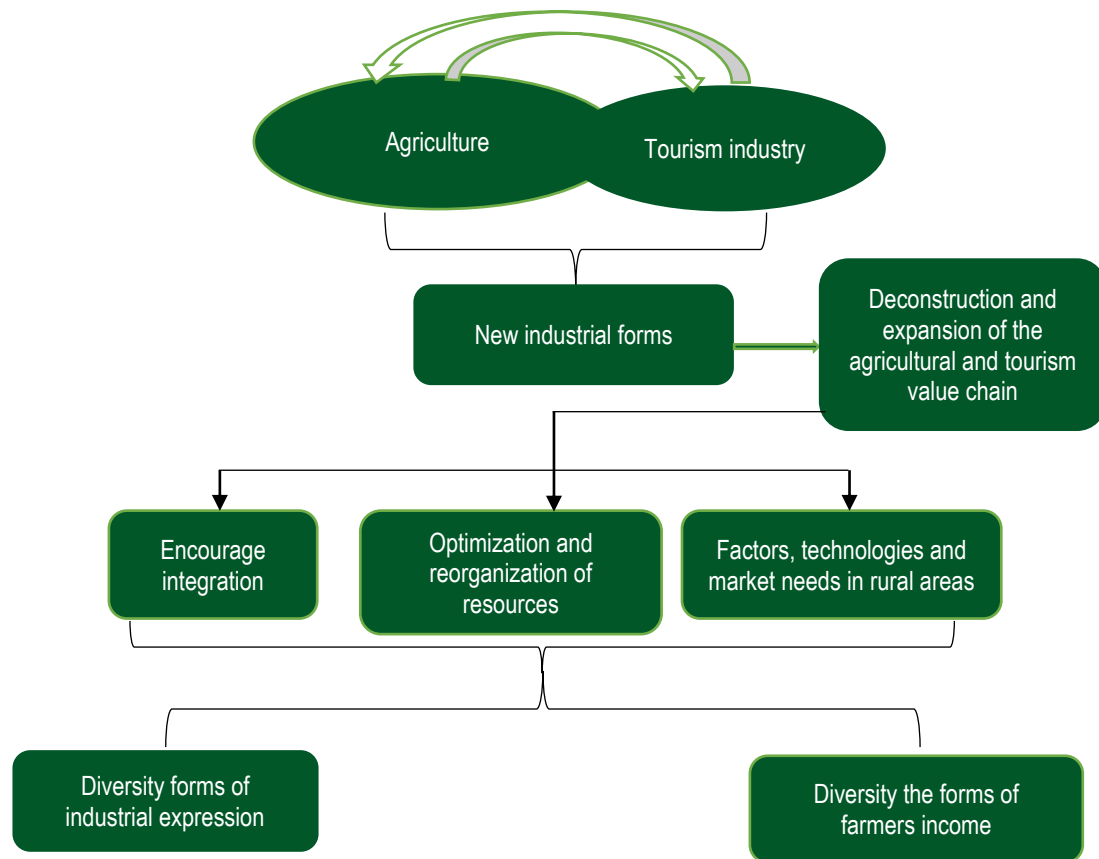
Thus, based on the chain of agribusiness and agro-specific tourism, according to (Deng *et al.* 2019), the integration of agriculture and tourism gradually takes various forms such as: agritourism, rural tourism (Karampela *et al.* 2021).

Tourism is an inclusive and correlating industry with the potential to integrate with agriculture and related industries (Ristić *et al.* 2019). Income from tourism determines the demand for tourism products, and subsequently the production of agricultural products and foodstuffs in the process of tourist consumption. The content of tourism supply is influenced by the process of agricultural production and seasonal characteristics (Sanches-Pereira *et al.* 2017). The close relationship between tourism and agriculture has drawn attention to the integration of agriculture and tourism (Ristić, Bošković and Despotović 2019, Streifeneder 2018).

Nie and Fang (2019) note that the integration of agriculture and tourism is a process of internalization of inter-industry division of labor, blurring of boundaries, sharing of products, markets and resources and symbiotic development of both industries caused by market demand, economic growth and competition (Wang, Zhou and Xie 2022).

The integration of agriculture and tourism is the process by which local governments, agritourism businesses, farmers and other stakeholders in agritourism resources, agricultural production and sales, land use planning and management maximize economic, social and environmental benefits under specific local environmental and consumption conditions. The relationship between agriculture and tourism has led to the gradual penetration of the tourism industry's value creation function into the agricultural system and the introduction of agricultural universality into the tourism industry system, creating a new industrial form (Figure 1).

Figure 1. Relationship between agriculture and the tourism industry

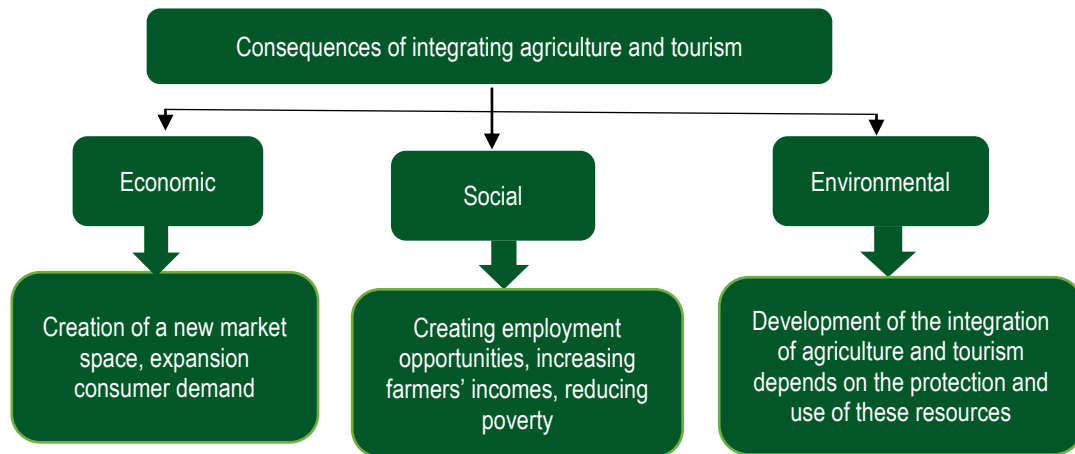


Source: compiled by authors

The expansion of the agricultural and tourism value chain has led to a new form of industrialization, promoting the integration, optimization and restructuring of rural resources and their elements, technologies and market needs, enriching the effects of agriculture, diversifying the forms of industrial expression and diversifying the income structure of farmers. The interaction and integration of agriculture and tourism can create new and broader market spaces, increase consumer demand, and promote the production of high-quality agricultural products and the development of tourism. The implications of this integration of agriculture and tourism are as follows (Figure 2). Some scholars believe that the interaction and integration of agriculture and tourism can create new market spaces, increase consumer demand, and promote quality agriculture and tourism (Asiedu *et al.* 2021, Wang *et al.* 2018). Others see it as an opportunity for employment, increasing farmers' income, reducing poverty, and promoting economic development (Adiyia and Vanneste 2018, Comerio and Strozzi 2019, Pitrova, Krejčí, Pilar, Moulis, Rydval, Hlavatý, and Tich 2020). Since agritourism relies heavily on agricultural resources, it also has implications for the agricultural environment:

- the exchange of information and elements between agriculture and tourism improves the quality of agricultural labor (Dax *et al.* 2019).
- the integration of agriculture and tourism promotes the dissemination of advanced agricultural technologies, increases the capital accumulation of agricultural producers, and provides sufficient funds to purchase modern and efficient agricultural machinery and equipment;
- agritourism integration stimulates agricultural development, promotes the diversification of certain agritourism products, satisfies the diverse needs of tourists and, in turn, contributes to the rapid development of the agricultural economy (Gruia *et al.* 2021).

Figure 2. Consequences of the integration of agriculture and tourism



Source: compiled by authors

2. Perspectives of Sustainable Agriculture

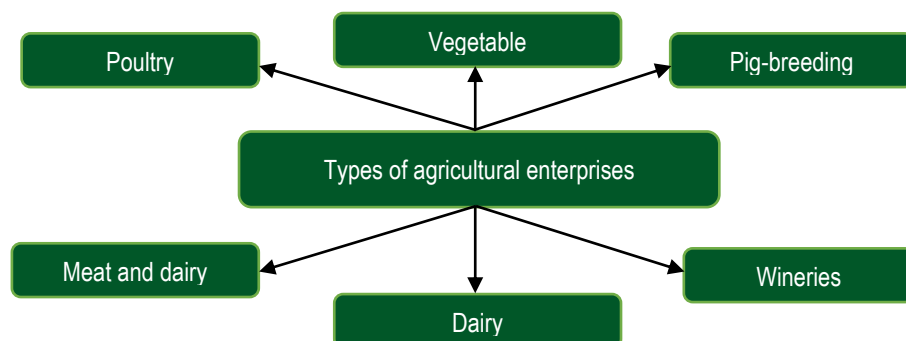
Kazakhstan is an agricultural country, and its agro-industrial sector provides not only the country's domestic resources, but also its position in foreign markets. The agro-industrial sector includes industries that produce agricultural products, process them and deliver them to consumers, as well as industries that provide the means of production for the processing industry.

Currently, Kazakhstan is implementing a state program for the development of agro-industrial complex of the Republic of Kazakhstan for the period of 2021-2030. The main player in the agro-industrial complex is agriculture. The prospects for sustainable development of the agro-industrial complex and the factors affecting its development are the long-term orientation of structural policy at the state level, which allows the creation and active development of SMEs in the context of global competition, with a very important role played by financial support, for which a number of incentives through a system of indicators and development measures is considered necessary.

The diverse climatic conditions of the Republic of Kazakhstan allow growing almost all temperate crops and raising livestock. Almost a quarter of the country's territory is occupied by steppe areas, half of it by semi-desert and desert areas, and the remaining quarter by piedmont areas. Eighty percent of the country is agricultural land, more than 200 million hectares. However, according to official statistics, only 40 percent of this area, or 96 million hectares, is used for agriculture. Large fluctuations in yields from year to year are caused not only by variable weather, but also by the relatively low level of technical equipment in the industry at almost all stages of production, including the post-harvest process. In the Republic of Kazakhstan, for example, only 2-3% of fruit and vegetable products are processed. Despite the relatively small share of the agro-industrial complex, Kazakhstan is one of the largest producers and exporters of grain and flour.

A variety of agricultural enterprises are located in the agricultural zone, which have certain tasks directly related to the direction of their activities. Depending on the type of task, there are different types and categories of enterprises (Figure 3). Modern farms are characterized by a high degree of specialization, with several points of heat treatment, sterilization and marketing preparation (Baidybekova, Baitenova and Kydyrbaeva 2022). There are also specialized farms that produce mainly one type of product, such as dairy, greenhouse and nurseries.

Figure 3. Types of agricultural enterprises



Source: compiled by authors

Since Kazakhstan is a commodity-based economy, it seeks to limit the export of commodities and encourage their deep processing. Export restrictions on goods include quotas, licenses, export bans, and tariff increases. For example, exports of buckwheat flour, white sugar, potatoes, onions, garlic, sunflower seeds and oil are currently banned. Quotas have been imposed on carrots, turnips, beets, cabbage and flour.

Measures to stimulate exports include reduced taxes and duties on exports of highly processed products. In addition, the government provides advice to exporters and covers the costs of participation in trade fairs. Exporters receive significant financial support in the form of incentives and subsidies. For example, Kazakhstan's agricultural production ranks high among CIS countries (Table 1).

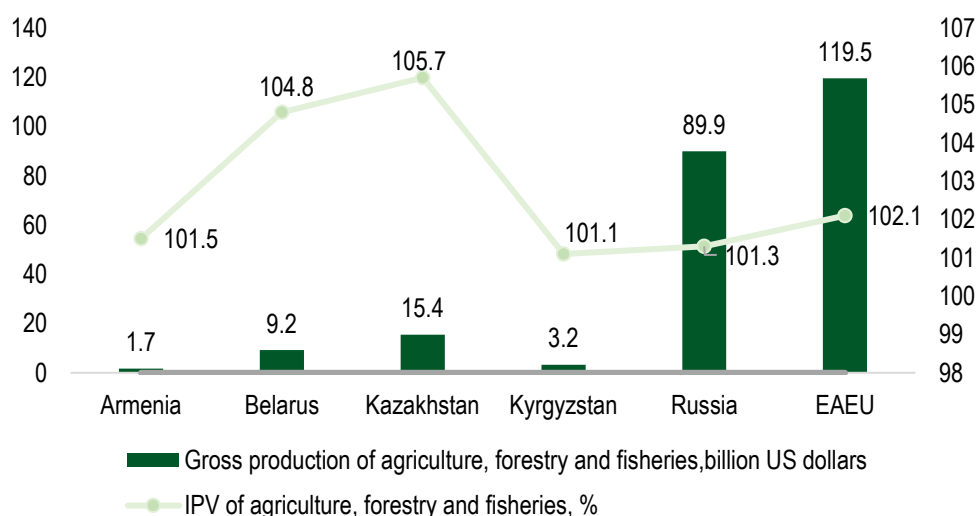
Table 1. Indicators of agricultural production among the CIS countries, billion US dollars

Countries	2019	2020	2021	2022*
EAEU	118,05	114,5	116,8	120,5
Armenia	1,85	1,74	1,9	1,9
Belarus	9,9	9,2	1,2	11,0
Kazakhstan	13,5	15,4	15,3	15,3
Kyrgyzstan	3,2	3,2	3,3	3,3
Russia	89,6	84,9	86,2	89,0

Source: compiled by authors according to <https://eec.eaeunion.org/>

In 2021, in the farms of all categories of the EAEU Member States, agricultural production amounted to 119.5 billion US dollars, having increased by 2.1% compared to January-December 2020 in constant prices (in 2020 compared to 2019 there was an increase of 3.5%) (Figure 4). All types of financial services in the development of agribusiness are aimed at maintaining and increasing the overall production of agricultural products (services), which leads to the development of such types of tourism.

Figure 4. Gross agricultural production in 2021



Source: compiled by authors according to <https://eec.eaeunion.org/>

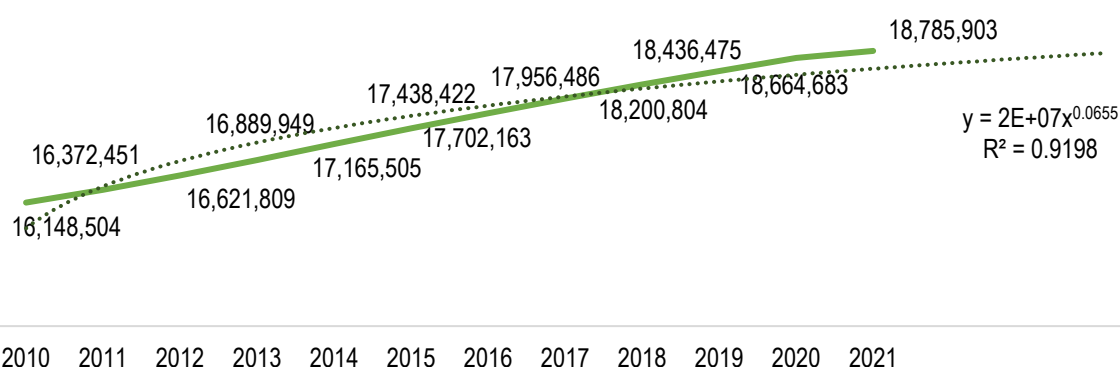
The volume index increased by 1.5% in Armenia, 4.8% in Belarus, 5.7% in Kazakhstan, 1.1% in Kyrgyzstan and 1.3% in Russia. The share of Kazakhstan increased by -1.44 points (12.89%) in the distribution of agricultural production by EAEU countries compared to January-December 2019. Among other member countries, the share of Armenia decreased by 0.11 points (1.46%), Belarus by 0.63 points (7.74%) and Russia by 0.68 points (75.24%). The share of Kyrgyzstan remained unchanged - 2.68%.

As for agro-tourism, in January-December 2021, the total volume of agricultural production fell by 2.4% to 7.4 trillion tenge. Although livestock production increased by 3.6% (KZT 3.1 trln), this was due to reduction of crop production by 6.7% (KZT 4.2 trln) because of extreme drought last year. During this period, food production increased by 1.9% and amounted to 2.2 trillion tenge.

Serious problems, which agricultural production has always faced (including climatic features), and its specifics delayed the adoption of modern management tools by agricultural enterprises. Strategic planning has not yet entered the practice of most farms. However, overcoming this crisis and creating the foundations for the rapid development of the agricultural sector in the economy and the development of various forms and directions

of tourism is impossible without the development of a scientifically sound strategy for the development of this sector at all levels of management.

Figure 5. Indicators of gross output of agricultural products (services), 2010-2021, million tenge



Source: compiled by authors according to <http://www.stat.gov.kz>

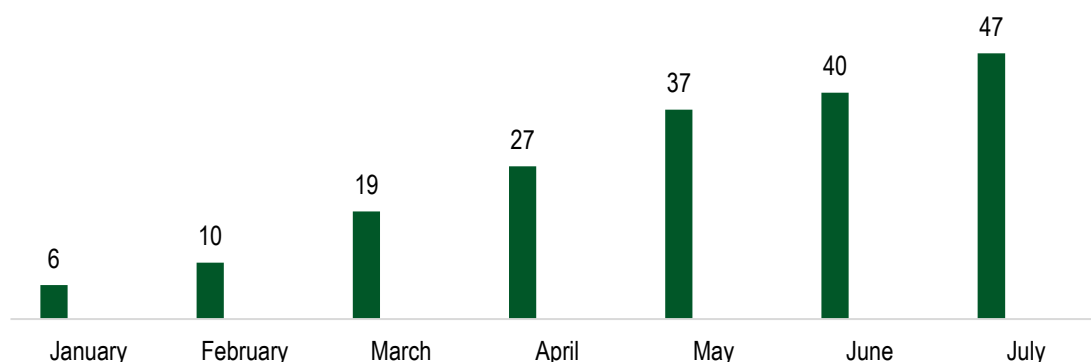
Geographically the most developed regions in terms of gross output (services) of agriculture are Almaty region (16.1% of gross output (services) of agriculture), North Kazakhstan region - 13.9%, Turkestan region - 12.2%, East Kazakhstan region - 10.2%, Akmola region - 9.5% and Kostanai region - 6.8%).

Inclusive ecotourism models improve the environment, have a global reach, and incorporate sustainable features, including both environmental and socio-cultural aspects. In recent decades, growing consumer interest in visiting relatively non-commercialized nature has fostered ecotourism. The impact of mass and unregulated ecotourism on natural resources is increasing. However, research on ecotourism is fragmented, and gaps in existing knowledge exist. With widespread support from national authorities for protected areas that promote sustainable tourism, supporting local communities is essential for sustainable ecotourism.

The multifaceted goals of ecotourism are to reduce environmental problems, support democratic and decentralized communities, improve local livelihoods, improve natural resource management, and alleviate poverty in poor rural areas.

Analysis of the relationship between agriculture and tourism shows that according to the information system eQonaq, since the beginning of 2022, 195,149 foreign tourists have visited the country (Figure 6).

Figure 6. Foreign tourists arriving since the beginning of 2022, thousand people

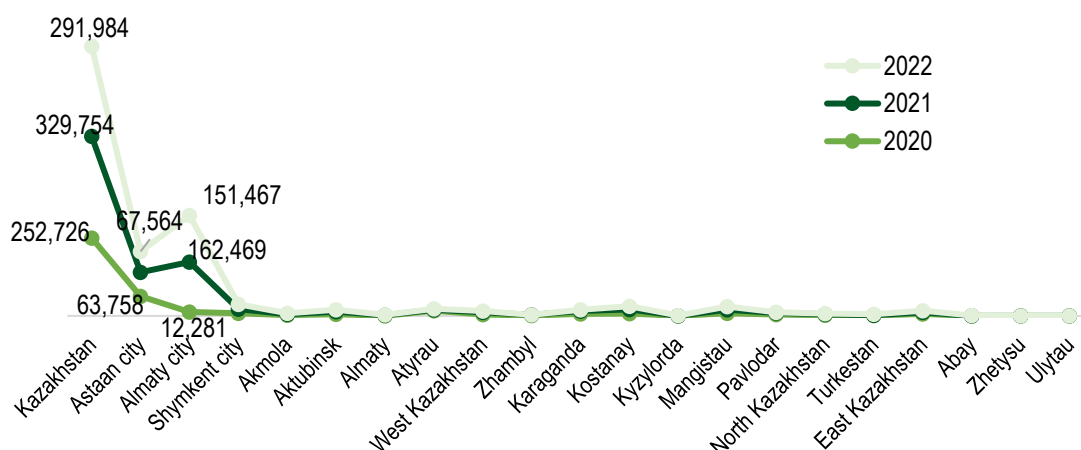


Source: compiled by authors according to <https://forbes.kz/>

It is emphasized that 67% of tourists arriving in the republic, 67% are citizens of the Russian Federation, 16% - Uzbekistan, 6% - Turkey, 4% - China and 7% - other states.

In the regional context, the number of visitors served by accommodation places for inbound tourism in dynamics for three years is as follows (Figure 7). The agency also provided data on areas dominated by foreign tourists in 2022: Almaty 73.012, Astana 44.859, Kyzylorda region – 9.735 people, Mangystau region - 9384 people.

Figure 7. Visitors served by accommodation places for inbound tourism in the regional context for 2020-2022, people

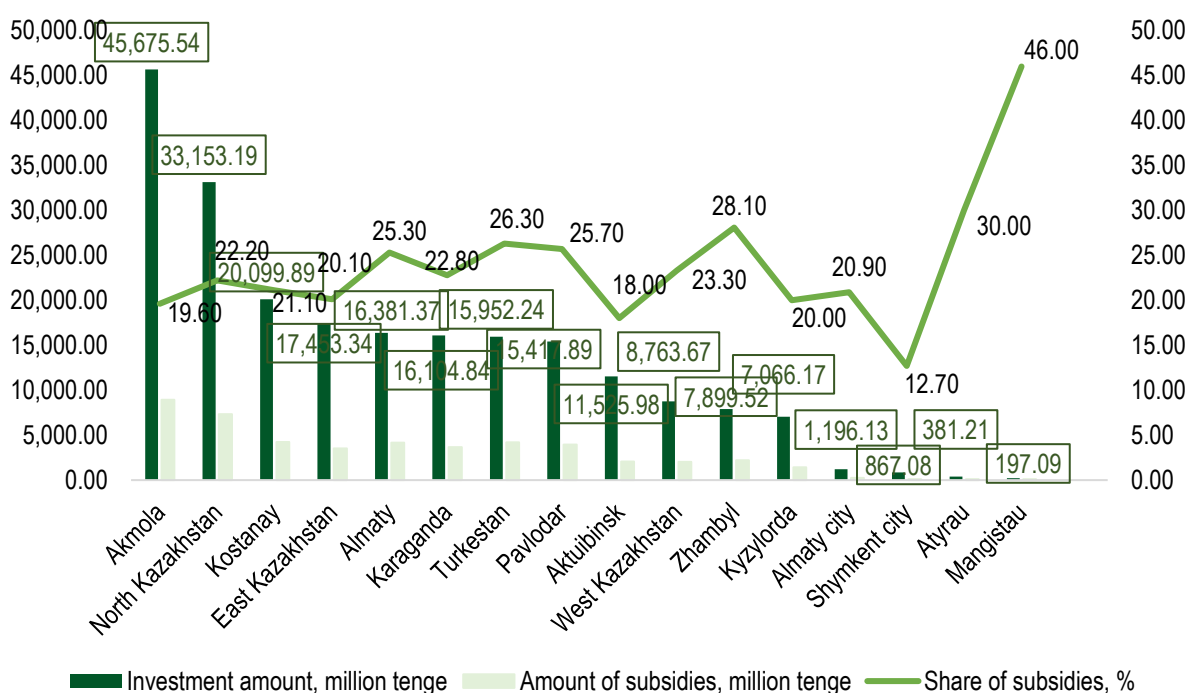


Source: compiled by authors according to <https://tourstat.kz/>

Based on the data of the Statistical Committee of the Ministry of National Economy of the Republic of Kazakhstan, an analysis of the impact of various factors on the total production of agricultural products (services) in the Republic of Kazakhstan was carried out, as a result of which it was revealed where agrotechnical measures are of no small importance. The peculiarity of agro-industrial complexes as a part of the world economy lies in biological and climatic processes, clear seasonality of economic activity, direct dependence on climatic factors, social and biological significance of agricultural products, irreplaceable land resources as the main means of production in the natural agro-industrial complex, the natural limitation of agricultural land and the marginal possibility of

Prospects for the sustainable development of the agro-industrial complex of the Republic of Kazakhstan and factors affecting its development are considered as a long-term direction of structural policy at the state level, which allows creating and actively developing a program of financing and subsidies for this industry, necessary for the sustainable development of agro-industrial enterprises, allowing to minimize risks, increase competitiveness and open up new opportunities (Figure 10).

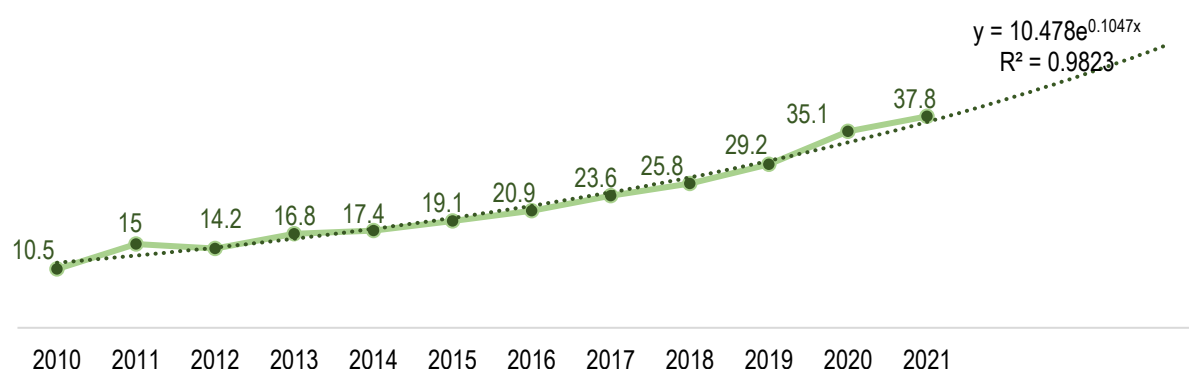
Figure 10. Volumes and share of subsidies as of 01.01.2022 in the regional aspect, Republic of Kazakhstan



Source: compiled by authors according to www.1cb.kz/

Thus, the competitiveness of agricultural enterprises due to the diversification of production has changed from traditional to high-tech industries that can create new markets, including tourism sectors such as rural tourism, agrotourism and ecotourism. The author has determined the forecast values of indicators of agricultural GDP development and land productivity of the Republic of Kazakhstan in 2022-2025, taking into account the indicators characterizing agriculture, in particular, the productivity of agricultural land, which affects the development of various sectors of the tourism industry (Figure 11).

Figure 11. Indicators characterizing the productivity of agricultural land, Kazakhstan



Source: compiled by authors according to <http://www.stat.gov.kz>

3. Agricultural GDP Development Indicators and Land Productivity

Considering that the gross value added of the agro-industrial complex increases every year, not only the productivity of the enterprise, but also the total volume of agricultural production (services) increases due to the following technologies:

- Forecasting the optimal harvest time-agrotourism;
- "Smart watering";
- Intelligent fertilizer application system-ecotourism;
- Pest and weed control systems - ecotourism (Table 2).

Table 2. Forecast values of agricultural GDP development indicators and land productivity, Kazakhstan, 2022-2025

Indicator	2022	2023	2024	2025
Gross output of agricultural products (services) of the Republic of Kazakhstan, million tenge				
Trend	6.269.919	6.645.471,584	7.021.024	7.396.577
Growth	7.133.462	7.916.996,725	8.786.595	9.751.709
Forecast	6.269.919	6.645.471,584	7.021.024	7.396.577
Productivity of agricultural land, %				
Trend	36,9257576	39,20408	41,48240	43,76072
Growth	40,8572899	45,36595	50,37214	55,93078
Forecast	36,9257576	39,20408	41,48240	43,76072

Source: compiled by authors

Promising areas of development of modern agriculture concern the creation of a reliable food base, the development of the digital economy, the rational use of natural resources, the use of innovative technologies, engineering and technical support of production. In order to be competitive, agribusiness companies apply innovations in activities that contribute to further development and improvement. Therefore, it is necessary to determine the expected value of the indicator "the level of innovative activity of the enterprise, %" for 2023-2024. A trend model was built and the following steps were taken:

- Checking the time series for anomalous observations. For this, the Irwin criterion was used (Table 3). The initial time series with a probability of 95% does not contain anomalous observations, since all observed values of the Irwin criterion are less than the critical value.

Table 3. Checking for anomalous observations in a time series

Year	Level of innovative activity of enterprises, %	Observed value of the Irwin criterion	Calculation formulas
2010	4,3		- Observed value of the Irwin criterion: $\lambda_t = \frac{ y_t - y_{t-1} }{\sigma_y}, \quad t = \overline{2, 11}$ - Critical value of the Irwin criterion $\lambda_{0,05} = 1,5$
2011	5,7	0,618	
2012	5,7	0,000	
2013	8,0	1,016	
2014	8,1	0,044	
2015	8,1	0,000	
2016	9,3	0,530	
2017	9,6	0,132	
2018	10,6	0,442	
2019	11,3	0,309	
2020	11,5	0,088	
2021	11,6	0,091	

Source: compiled and calculated by authors

- Using the criteria of "ascending" and "descending" series, it was found that the considered time series contains a trend component (Table 4).

Table 4. Checking for a trend

General view of the criterion of "ascending" and "descending" series (violation of at least one inequality is sufficient for a trend to exist)	Estimated values with a chance of error $0,05 < \alpha < 0,0975$
$v(n) > \left[\frac{2n-1}{3} - 1,96 \sqrt{\frac{16n-29}{90}} \right]$	$1 < 4$
$K_{\max} < [K_0(n)]$	$10 > 5$

Source: compiled and calculated by authors

- Approximation of the initial data was performed using a polynomial of the first degree:

$$y_t = a_0 + a_1 t + \varepsilon_t, \quad 3.1$$

The parameters of the selected growth curve were estimated using the least squares method. As a result, the following trend model was obtained:

$$y_t = 4,155 + 0,705t \quad 3.2$$

Table 5. Results of the analysis of a number of residuals

Property under test	Used statistics		Border	Conclusion
	Name, calculation formula	Received value		
Accident	Criterion of "peaks" (turning points) $p > \left[\frac{2}{3}(n-2) - 1,96 \sqrt{\frac{16n-29}{90}} \right]$	$7 > 3$	3	Adequate
Normality	RS- criterion $RS = \frac{e_{\max} - e_{\min}}{S}$	3,64	2,80 - 3,91	Adequate
Equality of the mathematical expectation of the levels of a series of residues to zero	t- Student statistics $t_{\text{observ..}} = \frac{\overline{e}}{S} \sqrt{n}$	0	2,23	Adequate

Source: compiled and calculated by authors

- Evaluation of the quality of the obtained model was carried out in two directions: verification of the adequacy and evaluation of the accuracy of the model. To test the adequacy of the model, a number of residuals were examined, *i.e.*, discrepancy between the levels calculated by the model and actual observations. The most important properties of the residual component are: the equality of the mathematical expectation to zero, the randomness of the residuals and their compliance with the normal distribution law. The results of the analysis of a number of residuals in order to check the model for adequacy are shown in Table 5.
- To calculate the point forecast, the corresponding values of the variable were substituted into the model. The results of building point and interval forecasts for 2023-2024 presented in Table 6.

Table 6. Point and interval forecasts of the level of innovative activity of enterprises for 2023-2024

Year	Point forecast, %	Interval forecast, %	
		Max	Min
2023	14,018	12,560	15,476
2024	14,723	13,199	16,246

Source: compiled and calculated by authors

Conclusion

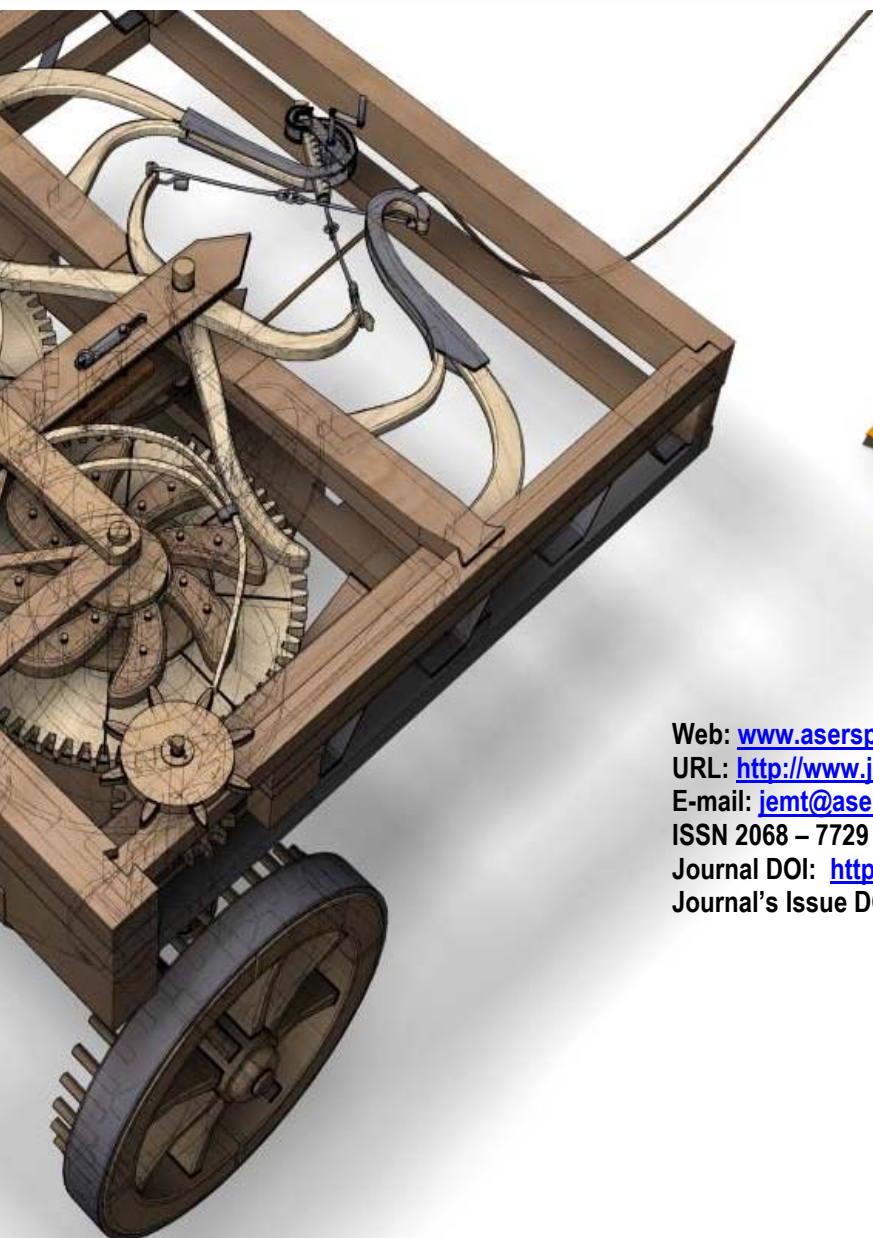
In the context of the global threat to the environment, which is now seriously felt, especially in agriculture, primarily from the point of view of environmental protection, activities in agro-industrial complexes should be justified. The level of effectiveness of management decisions aimed at the development of the tourism industry and the agro-industrial complex depends on the degree of development of infrastructure and services in a particular region of the country.

References

- [1] Adiyia, B., and Vanneste, D. 2018. Local tourism value chain linkages as pro-poor regional development tools in western Uganda. *Development South Africa*, 35(2): 210-224. DOI:<https://doi.org/10.1080/0376835X.2018.1428529>
- [2] Asiedu, A. B., and Gbedema, T. K. 2021. Linking agriculture and tourism in Ghana: An example of underutilized development potential. *Tourism and agriculture: New geographies of production and rural restructuring*. London: Routledge, pp. 28-46.
- [3] Baidybekova, S. K., Baitenova, L. M., and Kydyrbaeva, E. O. 2022. Enterprises of agricultural sector of the Republic of Kazakhstan: Efficient functioning. *Problems of AgriMarket*, 2: 112-120. DOI:<https://doi.org/10.46666/2022-2.2708-9991.12>
- [4] Ćirić, A. 2021. Analysis of agroholdings' attitudes towards agritourism development and impacts on the Serbian economy, society and environment. *Sustainable Development (Switzerland)*, 13(24): 1-15. DOI:<https://doi.org/10.3390/su132413729>
- [5] Comerio, N., and Strozzi, F. 2019. Tourism and its economic impact: A literature review using bibliometric tools. *Tourism Economics*, 25(1): 109-131. DOI: <https://doi.org/10.1177/1354816618793762>
- [6] Dax, T., Zhang, D., and Chen, Y. 2019. Agritourism initiatives in the context of continuous migration: Comparative perspectives for the Alps and mountain regions of China. *Sustainable Development (Switzerland)*, 11(16): 1-13. DOI: <https://doi.org/10.3390/su11164418>
- [7] Deng, T., Hu, Y., and Ma, M. 2019. Regional politics and tourism: A quasi-natural experiment. *Annals of Tourism Research*, 74(777): 1-16. DOI: <https://doi.org/10.1016/j.annals.2018.10.001>
- [8] Gruia, R., Gaceu, L., and Oprea, O.B. 2021. Post-pandemic development of Romania's agritourism resurgence. *Journal of EcoAgriTourism*, 17(1): 60-65.
- [9] Karampela, S., Andreopoulos, A., and Koutsouris, A. 2021. "Agro", "Agri" or "Rural": Different perspectives on tourism research combined with sustainability and sustainable development. *Sustainability (Switzerland)*, 1(10): 55-67. DOI: <https://doi.org/10.3390/su13179550>

- [10] Liu, Z., Yang, D., and Wen, T. 2019. Transformation of agricultural production modes and production efficiency: The lens of division of labor and cooperation. *China Agricultural Economic Review*, 11(1): 160-179. DOI: <https://doi.org/10.1108/CAER-07-2017-0129>
- [11] Nie, L., and Fang, F.Y. 2019. Joint integration analysis of integrated indicators of tourism industry and agriculture in Hainan province against the background of free trade zone. *Hainan University Journal of Humanities and Social Sciences*, 37(2): 63-69. DOI: <https://doi.org/10.15886/j.cnki.hnus.2019.02.008>
- [12] Pitrova, J., et al. 2020. Economic implications of diversification into agritourism. *International Review of Food and Agribusiness Management*, 23(5): 713-734. DOI: <https://doi.org/10.22434/IFAMR2020.0076>
- [13] Ristić, L., Bošković, N., and Despotović, D. 2019. Sustainable integrated agricultural and tourism development in the Republic of Serbia. *Economic Horizon*, 21(1): 57-74. DOI: <https://doi.org/10.5937/ekonhor1901057r>
- [14] Streifeneder, T. 2018. Agriculture first: an evaluation of European policies and scientific typologies for defining authentic agrotourism and differentiating it from rural tourism. *Tourism Management Perspectives*, 20: 251-264. DOI: <https://doi.org/10.1016/j.tmp.2018.10.003>
- [15] Wang, B. Y., and Zhang, W. G. 2018. Measurement and temporal and spatial differences of agricultural ecoefficiency in China. *Population, resources and environment in China*, 26(6): 11-19. DOI: <https://doi.org/10.3969/j.issn.1002-2104.2016.06.002>
- [16] Wang, J. J., Zhou, F. M., and Xie A. L. 2022. Impact of integrated agricultural and tourism development on rural environmental quality. *Wireless Communication and Mobile Computing*, 11: 6113324. DOI: <https://doi.org/10.1155/2022/6113324>
- [17] Wang, J., Zhou, F., and Xie, A. 2022. Impacts of the integral development of agriculture and tourism on agricultural eco-efficiency: A case study of two river basins in China. *Environment, Development and Sustainability*, 5(12): 78-89. DOI: <https://doi.org/10.1007/s10668-022-02781-x>.
- [18] Zou, E. 2020. Assessment and analysis of agricultural nonpoint source pollution loads in China: 1978-2017. *Journal of Environmental Management*, 263: 110400. DOI: <https://doi.org/10.1016/j.jenvman.2020.110400>
- [19] Official resource of Analytical digest. Agricultural sector 2021. Available at: [www.https://www.1cb.kz/](http://www.1cb.kz/)
- [20] Official resource of Joint forecasts for the development of the agro-industrial complex, balances of supply and demand of the member states of the Eurasian Economic Union for agricultural products, food, flax fiber, raw hides, cotton fiber and wool for 2021-2022. Available at: [www.https://eec.eaeunion.org/](http://www.eec.eaeunion.org/)
- [21] Official resource of the Data from the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan for 2010-2021. Available at: <http://www.stat.gov.kz>
- [22] <https://forbes.kz/>
- [23] <https://tourstat.kz/>

ASERS



 **ASERS**
Publishing

Web: www.aserspublishing.eu

URL: <http://www.journals.aserspublishing.eu/jemt>

E-mail: jemt@aserspublishing.eu

ISSN 2068 – 7729

Journal DOI: <https://doi.org/10.14505/jemt>

Journal's Issue DOI: [https://doi.org/10.14505/jemt.v14.2\(66\).00](https://doi.org/10.14505/jemt.v14.2(66).00)