

Integrative learning of agriculture and agro-tourism in geographical studies

Abstract: This study explores the integration of agriculture and agro-tourism within the geographical context of the Nagorno-Shirvan economic region of Azerbaijan. It investigates the role of natural and geographical factors in agricultural development and the potential for agro-tourism, focusing on areas with agrarian prospects. Key players in this sector, such as AZERSUN, GILAN, and AZZA AGRO, are highlighted for their contributions to agriculture and agro-industrial complexes. The research addresses the need for effective agricultural practices and the development of agro-tourism networks in mountainous and plain areas, considering the impact of population migration, food security, and regional economic growth. The study identifies challenges in the region, including insufficient production infrastructure, inadequate vehicle supply, and the effects of natural disasters like landslides and floods on economic activities. It emphasizes the potential of agro-tourism to enhance local economies by attracting tourists interested in farm experiences and agricultural processes. The research underscores the importance of improved territorial organization, risk management, and infrastructure development to support sustainable agriculture and agro-tourism.

Previous works, such as those by Pashayev and Aliyev, provide a foundational understanding of the region's socio-economic and environmental conditions. This study builds on their findings, offering new insights into the integration of agriculture and tourism. By proposing targeted scientific-practical recommendations, the research aims to address regional challenges and leverage opportunities for economic development through effective agricultural practices and agro-tourism initiatives.

Keywords: Integrative learning; agriculture; agro-tourism; geographical studies; recommendations.

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Összefoglalás: A tanulmány a mezőgazdaság és az agroturizmus integrációját vizsgálja Azerbajdzsán Nagorno-Shirvan gazdasági régiójának földrajzi kontextusában. Elemzi a természeti és földrajzi tényezők szerepét a mezőgazdaság fejlődésében, valamint az agroturizmusban rejlő lehetőségeket, az agrárjellegű kilátásokkal rendelkező területekre összpontosítva. Az ágazat olyan kulcsfontosságú szereplőit, mint például az AZERSUN, a GILAN és az AZZA AGRO, a mezőgazdasághoz és az agrár-ipari komplexumokhoz való hozzájárulásuk miatt emeli ki. A kutatás foglalkozik a hatékony mezőgazdasági gyakorlatok és az agroturisztikai hálózatok fejlesztésének szükségességével a hegyvidéki és síkvidéki területeken, figyelembe véve a népességvándorlás, az élelmezésbiztonság és a regionális gazdasági növekedés hatását. A tanulmány azonosítja a régió kihívásait, többek között az elégtelen termelési infrastruktúrát, a nem megfelelő járműellátást, valamint a természeti katasztrófák, például a földcsuszamlások és árvizek gazdasági tevékenységekre gyakorolt hatásait. Hangsúlyozza az agroturizmusban rejlő lehetőségeket a helyi gazdaságok fellendítésére azáltal, hogy vonzza a mezőgazdasági tapasztalatok és a mezőgazdasági folyamatok iránt érdeklődő turistákat. A kutatás hangsúlyozza a jobb területi szervezés, a kockázatkezelés és az infrastruktúrafejlesztés fontosságát a fenntartható mezőgazdaság és az agroturizmus támogatása érdekében. A korábbi szakirodalom, például Pashayev és Aliyev munkái, megalapozó ismereteket nyújtanak a régió társadalmi-gazdasági és környezeti viszonyairól. Ez a tanulmány az ő eredményeikre épül, és új betekintést nyújt a mezőgazdaság és a turizmus integrációjába. Célzott tudományos-gyakorlati ajánlások megfogalmazásával a kutatás célja, hogy a hatékony mezőgazdasági gyakorlatok és agroturisztikai kezdeményezések révén kezelje a regionális kihívásokat és kihasználja a gazdasági fejlődés lehetőségeit.

Kulcsszavak: Integratív tanulás; mezőgazdaság; agrárturizmus; földrajzi tanulmányok; ajánlások.

The science of geography consists of two main areas: physical and economic, and social. Both areas are integrated with each other. Physical and economic geography, in turn, combines various branches, including traditional and new areas. Geography has fields such as integrative plant geography with agriculture, soil geography, agricultural geography, and agro-tourism with medical geography and recreation geography. That is why agricultural specialists must know geography perfectly.

In modern times, the rapid increase of the world's population makes its supply with food products more urgent. Countries are implementing various measures to reduce dependence on imports. Here, two directions are distinguished: intensive and extensive. The intensive way involves increasing productivity with agro-technical methods. The main goal is to achieve quality change. Intensive agriculture is typical of countries with a high level of development, and extensive agriculture is typical of countries with a weak economy. Currently, a „green revolution” is taking place in some developing countries. The essence of the „Green Revolution” involves the use of modern agro-technical methods. As a result of their application, Turkey, Malaysia, Argentina, etc. obtained important indicators. Application of the intensive method in some areas of agriculture in Azerbaijan has increased productivity. Progress is being made in agriculture:

viticulture, almond orchards, grain growing, poultry breeding and cattle breeding in animal husbandry. The use of drip irrigation and chemical preparations, and the introduction of high-yielding plant varieties into the country should be evaluated positively. An agrarian-industrial complex is gradually forming in the country. As privatization took place during the land reform in Azerbaijan, the main agricultural enterprises are under the control of the private sector.

Companies with the main share in this field (purely agricultural and agro-industrial complex), such as "AZERSUN", "GILAN", "AZZA AGRO", "SABA", "MÂRJAN BROYLER", "SİYAZEN BROYLER", "Az-Granata", "AZNAR" and "VEYSALOGLU" group of companies. can be seen in *Figure 1*.

Figure 1. "Az-Granata" LLC, Agsu region



Studying the role of natural-geographical factors in the development of agricultural areas in mountainous and plain areas with agrarian development prospects, determining favourable opportunities and directions for the creation of new networks, and preparing relevant scientific-practical proposals are the main economic-geographical problems. As the topic is broad, the Nagorno Shirvan economic region, which is one of the 14 economic regions of the Republic of Azerbaijan, was studied in this research.

If taking into account the measures to regulate the migration of the population from the mountainous areas in the modern era, when the scientific and technical development is increasing, as well as the study of the agricultural areas that exist there, the level of provision of the population with food products, and the need to specifically study the development of agriculture and agro-tourism, it is possible to conclude that the Nagorno-Shirvan economic- there is a great need to study the areas mentioned in the geographical region. In order to understand the importance of the subject, the essence of agriculture in the region, the issues of its territorial organization, and the characteristics of development in accordance with the natural and geographical conditions should be explained at first.

[1] Mahmudov, M. M. (2011): *Regulation of socio-economic development of regions*. M. M. Mahmudov–I. M. Mahmudova. Baku: University of Economics.

[2] Abdullayeva F. (2010): Rural tourism: possibilities and perspectives. *Culture*.

[3] Constructive geography of the Republic of Azerbaijan (1996): [in 3 volumes] Chief editor: B. A. Budagov. Baku: Elm.

”The study of nature, the improvement of people's way of life allows for the correct analysis of its position in nature, and reveals ways of making its activity more efficient” [1].

The landscape, climatological, balneological, historical-cultural, manufactured products of rural settlements lead to the physical and spiritual recovery of people's labour force. If agriculture develops in a planned manner, then tourists from large industrial cities (Baku, Sumgayit, Ganja, Mingachevir) and foreign countries will show interest in agro-tourism. This field is reviving in our country. During the organization of agro-tourism, guiding, transportation services, and pet and bird feeding can be offered [2].

Agro-tourism involves recreation on farms, during which the tourist can get acquainted with agricultural production and participate in the process. It is impossible to evaluate the development of the agricultural sector in the region only by some indicator. The insufficient production infrastructure for the rural population and the poor conditions of enterprises, the poor supply of vehicles to residential areas do not allow the formation of Territorial Production Complexes in the area.

Since the research object is located in the natural disaster zone, the scientific research of N. A. Pashayev should be noted when considering the issue of evaluating the effect of the geo-synclinal factor during the territorial organization of production and non-production objects. In his research, Pashayev (...) gave the regionalization of landslides, floods and flooding, and grouped the region, including the administrative territorial units belonging to it, according to the degree of damage from the above-mentioned natural disasters and their recurrence. His work is important in studying the negative impact of natural disasters on the efficient use of the region's potential, population settlement and development of economic areas in the territory of the Nagorno-Shirvan economic-geographical region.

Aliyev (...) studied the geography of forest lands, the preparation of national land maps, the solution of environmental problems, the development of land reclamation, and biological and ecological biodiversity. He was the co-author and editor of 6 monographs, 13 books, and more than 50 maps. ”In many regions, in order to achieve a sustainable level of development of social infrastructure and recreation economy, the complex recommendations for improving its material and technical base and improving personnel supply have not been effectively used” [3].

N. A. Pashayev, N. H. Ayyubov and Z. N. 's monograph, ”Economic, social and political geography of the Republic of Azerbaijan”, which is (based on?)

Eminov's research work, talks about the demographic development and population settlement characteristics of Azerbaijan as a whole, as well as the development of economic sectors and social infrastructure sectors.

Figure 2. Academician Hasan Aliyev during scientific research



Source: <https://portal.azertag.az/az/node/26742>

In T. G. Hasanov's work (...) entitled "Economic-geographical zoning", the foundations, principles, factors and methods of economic-geographical zoning, the features of formation in various socio-economic systems, the economic-geographical zoning of the territory of the Republic of Azerbaijan, the forms of territorial organization of the economy in modern conditions, and the state of socio-economic development of regions policy are analyzed. E.Q. Mehraliyev, N.H. Ayyubov, M.O. in their monograph, "Issues of settlement of the population in the Azerbaijan SSR", related to Sadigov, discuss the implementation of settlement according to the aspect of dependence on the country's vertical zonation and inclination angle, the role of natural resources in the appropriation of the territory, and the historical stages of the modern state of settlement. Volume III of the work "Constructive Geography of the Republic of Azerbaijan", indicate the main directions of developing the country's economy: provide it with raw materials, specialize agriculture, design irrigation networks, roads, water and oil-gas pipelines in an efficient way, and make full use of the natural and material resources of the economic-geographical region.

In Z. S. Mammadov's monograph called "XXI century: Transport factor of economic development", the importance of the transport factor in the process of strengthening integration in the market economy is analyzed in terms of modern requirements.

[4] Agakishiyeva, G. R. (2007): *Economic-geographical and social problems of the development of Nagorno-Shirvan*. PhD thesis on geography. Baku.

[5] <https://portal.azertag.az/az/node/26>

The position of all areas of transport for economic cooperation is examined, and its development directions are considered.

Complex relief and harsh climatic conditions in the mountainous areas have revealed the need to study the level of social infrastructure provision of the population there. The scientists and experts of both the Republic of Azerbaijan and foreign countries paid special attention to the study of the standard of living of the population and the provision of social infrastructures. The analysis of the economic-geographical and social issues of the economic-geographical region was given in the thesis "Economic-geographical and social problems of the development of mountainous Shirvan" related to G.R. Agakishiyeva. The 2nd sub-chapter of the third chapter of the dissertation work is dedicated to the development opportunities of the existing infrastructure in the Nagorno-Shirvan economic-geographical region, and it is noted that the study of social infrastructure areas is of great importance [4].

Z. T. Imrani and K. Z. Zeynalova's research work, entitled "Economic geographical characteristics of the territorial organization of the economy in Azerbaijan", gives a broad economic-geographical analysis of the economy and its infrastructure areas in Azerbaijan and show its modern features. An economic-geographic assessment of the social life and economic activity of the population, the territorial organization of industry, agriculture, tourism and infrastructure areas are also provided. Each infrastructure area was analysed separately and their advantages in socio-economic development were noted.

N. T. Agamammadov's research work entitled "Regional characteristics and development model of providing social infrastructure to the population in mountainous areas" (2021) on the example of Daglig Shirvan economic-geographical region is a scientific work of sufficient quality about the state of social infrastructure areas in mountainous areas and future development dynamics.

ANAS academician H. A. Volumes II and III of the work "Geography of the Republic of Azerbaijan" published by the Institute of Geography named after Aliyev are considered one of the main studies in the economic and social study of Azerbaijan. "Geography reflects the stages of the formation of agriculture and industry, the formation of the geographical division of labour, the specialization of the regions of the country, changes in the socio-economic structure of society and scientific and technical progress" [5].

Since the research object is located in the natural disaster zone, the scientific research of N. A. Pashayev (...) should be noted in considering the issue of evaluating the effect of the geo-synclinal factor during the territorial organization of social infrastructure objects. In his research, Pashayev gave the regionalization of landslides, floods, flooding and grouped the region, including the administrative territorial units belonging to it, according to the degree of damage from the above-mentioned natural disasters and their recurrence. The aforementioned research work is important in the study of the negative impact of natural disasters on the efficient use of the region's potential, on population settlement and development of economic areas, on the level of provision of social infrastructure in the territory of the Nagorno-Shirvan economic-geographical region.

N. Pashayev, N. H. Ayyubov and Z. N. Eminov's The monograph "Economic, social and political geography of the Republic of Azerbaijan", which is research work, talks about the demographic development and population settlement characteristics of Azerbaijan as a whole, as well as the development of economic sectors and social infrastructure sectors. Here, the development of the social sphere, which is one of the components of productive forces, and its regional improvement, the effects of State

Programs on the effective location of productive forces at the country and regional level, the importance of population employment and the improvement of living conditions are elaborated on. [6].

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The result

1. There is a need to develop agriculture in areas with complex relief and harsh climatic conditions.
2. The organization of rural tourism in the regions on a scientific basis can lead to positive dynamics in solving the employment problem of the population.
3. The fact that the intensive direction of agriculture covers all areas is a guarantee of food abundance.

[6] Pashayev, N. A. (20017): *Economic-geographical problems of the impact of natural disasters on the economy in the Republic of Azerbaijan*. Abstract of PhD dissertation in geography. Baku.

