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Mountain cultures

The role of geomorphological factors in desertification in the southeastern part

Aruz Mikayilov[1] Pervin Shukurlu[2]

[1] Western Caspian University, Istiqlaliyyat Street, 31, Baku, AZ0001, Azerbaijan, aruz.mikayilov@wcu.edu.az, *0000-0001-5714-3174*

[2] Western Caspian University, Istiqlaliyyat Street, 31, Baku, AZ0001, Azerbaijan, pervin.shukurlu@wcu.edu.az, *0000-0001-6251-3336*

Abstract

The research area covers the southeastern foothills of the Lesser Caucasus, the total area of landscapes is 249281 ha. The area is semi-desert and dry-desert landscape characterized by complexes. It was determined that the geological-lithological basis of these complexes is arid as it is characterized by climate, it is sensitive to exodynamic processes and erosion-denudatio it differs from other areas of the Lesser Caucasus due to the intensive development of its processes. From this point of view in arid climatic conditions, sharp decomposition of abiotic components in the area due to exogenous effects, created the basis for the manifestation of desertification centers and the expansion of their areas. This processes southern exposure foothills, open mountainous areas, dry river valleys, proluvial,more for deluvial plumes and surfaces of proluvial slopes with an inclination of more than 5 degrees has a broad character.

In order to determine the current state of the desertification process in the studied area, a 1:200000 scale horizontal fragmentation map was prepared based on ArcGis analysis of LANDSAT-8 satellite images and large-scale maps of the area.

While drawing up the desertification map of the studied area, a 1:100000 scale desertification map of the area was drawn up using ArcGis software, using LANDSAT-8 satellite images, large-scale topographic maps, horizontal fragmentation map and observation data from selected sites in different stages of desertification. . In this process, the characteristics of anthropogenic factors and the degree of anthropogenicization of landscapes were also taken into account.

The systematic analysis of the map data we compiled shows that 73.6% of the landscape complexes included in the research object have been subjected to desertification to varying degrees. In the area, 26.4% of landscapes are conventionally not desertified, 12% are slightly desertified, 21.2% are moderately desertified, and 40.4% are severely desertified.

Key words: geomorphological, exogenous, weathering, denudation, erosion, gully, desertification

Introduction

The process of desertification, being one of the main global and environmental problems of the modern era, poses a potential threat to the arid and semiarid landscapes of the world, including our republic. Approximately 60% of the territory of our republic is included in the danger zone of desertification. The area we studied is one of the high desertification risk areas and is characterized by natural and anthropogenic manifestations of desertification. Here, modern and traditional research methods were applied to determine the role of geomorphological processes among the current main factors of desertification.

Our observations and analyzes in the studied area show that there is a direct connection between the occurrence and development of desertification in arid climate and geomorphological processes. These processes, consisting of exogenous and endogenous effects, create the basis for the desertification of landscapes in different directions.

The increase of anthropogenic loading in the studied area in recent years has led to an increase in the intensity of exogenous processes. In arid climatic conditions, exogenous processes create potential conditions for the emergence and development of desertification.

Active erosion-denudation processes in areas with a positive structure intensify the desertification process [4,5,7-9,10,13,14]. As a rule, the intensity of exodynamic processes in arid climatic conditions on south-facing, mostly inclined slopes leads to a sharp fragmentation of the relief, creating a potential basis for the violation of the integrity of the soil-vegetation cover and the manifestation of desertification centers.

The analysis of space images shows that the southeastern front foothills of the Lesser Caucasus are characterized as hotbeds of modern desertification, being an upland area that is sharply divided and deprived of vegetation in many areas. The inclination of the slopes in the indicated lowland areas is one of the main factors that create the basis for the intensity of the erosion-denudation processes. Field observations show that on slopes with an inclination of more than 5 degrees, the process of surface decomposition becomes more widespread, and potential conditions for the development of denudation are created, and bare areas are more evident on most of such slopes.

Arid-denudation processes in the studied area are mainly on the slopes of anticlinal ridges and elevations, on the steep, outer slopes of the sloping foothill plains descending to the river valleys, deluvial, proluvial plumes, inclined, south-facing slopes, Paleogene, Neogene, clay-sandy, carbonate, gypsum of the IV period. , manifested in rocks consisting of marly, conglomerate sediments. These processes, manifested in the form of clay karst, surface and underground erosion, mechanical suffusion, badlands, which are related to each other due to their morphogenetic characteristics, are underground cavities, wells, rifts, erosion furrows of various sizes, gullies, gobos, etc. observed in the form of exogenous relief forms. They have led to the creation, development and deepening of classic desertification centers in semi-desert, dry-desert landscapes characterized by weak stability.

Main discussion

Systematic analysis of the large-scale map and space images of the studied area, geomorphological materials and our observations shows that gully erosion is one of the exogenous factors that lead to the formation of desertification centers, mainly covering the south-eastern slope of the Lesser Caucasus, most of them on the slopes of anticlinal strips, deluvial-proluvial, developed in alluvial-proluvial sloping plains. Ravines manifest themselves as hotbeds of desertification, causing soil-vegetation degradation from the initial stage of formation to the final stage in areas with weak vegetation in dry desert and semi-desert landscapes, mainly in arid climates.

On the slopes of the Lesser Caucasus south-eastern foothills of the studied area, ravines develop in separate areas, and the density is 1.5-2 km/km2 [11, 12,]. Here, gully erosion is concentrated in areas where easy-to-wash alluvial-proluvial, deluvial-proluvial loess-like clay, sandstone, and river stones of the IV period are spread.

In the southeastern part of the Lesser Caucasus (in the lower part of the Hekarichay basin), the annual growth of the length of ravines is 1.3-4.1 m[12].

All types of ravines in the studied area cause soil-vegetation degradation to the extent they occupy, disrupt the integrity of landscapes, reduce biological potential, and create desertification centers. The development of ravines leads to a decrease in the areas of semi-desert and dry-desert landscapes used as winter pastures, resulting in an increase in the number of livestock per unit hectare. This process increases the intensity of desertification every year, expands the areas of manifestation of desertification centers.

In the studied area, gob erosion from exogenous processes is mainly spread in areas where ravines develop. As a result of their development, the surface cover is split, sharp ridges, pyramid-shaped forms, and steep slopes are formed, with the destruction of the soil-vegetation cover, gypsum, heavy gravelly rocks come to the surface, and they appear as desertification centers.

Gobo erosion has developed mainly in the foothills of the Karabakh plain, in the Arazboyu plain and in ancient dry river valleys in the sloping plains of the Lesser Caucasus foothills.

As the coefficient of horizontal fragmentation of the relief and the degree of inclination of the surface increases, the degree of surface disturbance and denudation processes also increases, which leads to a corresponding increase in desertification rates. The neotectonic bending areas of the studied area have plain relief and are poorly divided. Inversion fold uplift zones are characterized by relief types consisting of weakly, moderately and severely fragmented low mountains and ridges, accumulative depressions, weakly and moderately fragmented plains and plateaus, and moderately fragmented erosional mountains and ridges. These areas differ from each other in terms of the intensity of desertification and the extent of the hotbeds, depending on the hypsometry, morphology of structures, lithostratigraphic complexes and climate

Field erosion has a special effect on the desertification of landscapes in the study area. This process leads to a sharp decrease in productivity, thinning of vegetation, and changes in the composition of species due to the leaching of humus and trace elements from the soil.

Our observations show that field erosion is more widespread than other types of erosion and has developed in all areas that are not favorable for sediment accumulation. Fertile conditions and humidity only in the flow cones of rivers of the studied area ensure the natural regeneration of landscapes. Therefore, erosion processes in these areas cannot participate as a leading factor in desertification.

As a result of the long-term occurrence of field erosion, the bedrocks come to the surface, and sharp desertification centers are formed, consisting of gravel, stony and rocky bare surfaces.

Productivity in moderately eroded soils is 1.2-2 times lower than in non-eroded soils[4,6]. On average, from 5 to 40 tons of soil particles per hectare are removed in the areas affected by the erosion process. Keeping 1 cm of humus reserve from the soil surface causes a decrease in productivity by 0.5-2 centners per hectare. While the weight of green mass is 35.5 centners/ha in pastures subject to field erosion, it is 3.2 centners/ha in heavily washed pastures. [15].

Erosion processes are mainly characterized by their intensive development within semi-desert and dry-desert landscapes and the vastness of the area covered.

One of the exogenous processes that create conditions for the formation of desertification centers in the studied area is the erosion of rocks in low mountains and ridges composed of salty, carbonate, gypsum-clay, sandy-coarse layers and accumulation in plains.

Bringing salt and mechanical fractions in eroded rocks to the plain is caused by surface and underground flows[13,14]. Salts absorbed into the soil cause different degrees of salinization depending on the chemical composition of the soil.

V.R. Volobuev (1965) distinguished 3 geomorphological zones subjected to salinization while studying the process of deluvial soil salinization. 1) parts close to the mountain 2) salt transit zone 3) salt accumulation zone. Soil salinization occurs when eroded salt rocks are denuded along slopes and accumulate in low-lying areas. Accumulation of saline materials in low-lying areas in the form of silty sediments by temporary flows leads to the formation of salt marshes during droughts, and those areas are characterized as hotbeds of desertification. During the dry season, such areas lead to a decrease in the productivity of biocomponents in the surrounding semi-desert landscapes, creating the basis for the expansion of desertification centers.

One of the exogenous processes that creates a natural basis for the desertification of landscapes in the studied area is soil salinization due to the effects of soil formation and erosion processes. Since the rocks that make up the positive structures here are composed of carbonate sediments, their erosion and remaining in place causes natural salinization of the soil. M.R. Abduyev (1963) called this type of salinization eluvial salinization. Such areas are characterized by severe desertification, manifesting as hotbeds of desertification within the landscape.

The development of clay karsts is one of the exogenous processes that create a natural basis for the formation of desertification centers. This type of microrelief forms developed in the area on the slopes of low mountains and ridges consisting of clay and granular rock layers.

Clay karsts, consisting of wells of different diameters (1-2 m), developed mainly in the outcrops of upper Sarmatian sediments. Karst forms are also formed near ravines, and there are underground passages from them to ravines[10]. This feature leads to rapid filtering of atmospheric precipitation falling on the surface, desiccation and washing of the soil layer, destruction of vegetation due to lack of moisture, and at the last stage, ravines and badlands are formed. The formation and expansion of clay karsts causes a violation of the integrity of the soil-vegetation cover.

In the studied area, badlands are formed in sharply fragmented areas with ravines, gobs, numerous erosion furrows of different sizes, suffosis, clay karsts, which are a physical manifestation of the sharp desertification of the landscape.

The development of badlands manifests itself as centers of desertification by spreading in the areas where clay, loam, sandstone, and sandy-clay parent rocks come to the surface[11,12,19].

As it can be seen, all types of exogenous natural geomorphological processes existing in the study area, manifesting as symptoms of desertification in poorly stable landscape complexes characterized by arid characteristics, lead to a decrease in the productivity of biocomponents, the creation and expansion of desertification centers.

Endogenous geomorphological processes that create relief are also involved in the formation and development of the desertification process in the studied area.

The geological development history of the area is related to the Cretaceous and Paleogene border [21], the IV period tectonic movements played a key role in the formation of the modern appearance of the relief and structural elements [16-20]. The formation of modern structural elements, starting from the Akchakyl age and continuing to the New Caspian, is currently taking place due to neotectonic movements[22].

Paleogene-Miocene, Pliocene-IV period continental sediments are distributed in different areas of the territory.

Endogenous geomorphological processes in the studied area lead to the differentiation and complexity of the relief, which at first glance seems simple at the modern stage. The hypsometric features, types, and weak stability of the relief have a direct influence on the formation and development of the desertification process in arid and semiarid

lands characterized by weak stability of neotectonic movements.

The analysis of geomorphological materials shows that the intensity of exogenous forces depends on the quantity of endogenous forces, their development and intensity in the areas subject to neotectonic uplift, and in the areas subject to subsidence, groundwater approaches the surface and the accumulation of carbonate rocks eroded by deluvial-proluvial way occurs. This process lays the groundwork for the disruption of the integrity of landscapes, the creation and development of the desertification process.

The main morphogenetic types and forms of relief in the area consist of low ridges, elevations, synclinal valleys, depressions and plateaus. In arid climatic conditions, the positive forms of the mountain relief create potential conditions for the degradation and desertification of the soil and vegetation by exposing the slopes, causing the formation of intensive erosion and denudation processes, the bareness of the slopes, the accumulation of gypsum, salty rocks in the depressions of the relief.

In areas with a positive structure, the intensity of leaching and the vegetation period of plants are characterized by diversity in different exposures of the slopes.

It was determined that the amount of leaching on the broken, south-facing slopes was 124 m3/ha during torrential rains, while this indicator was equal to 32 m3/ha on the north-facing slopes[15].

In the studied area, neotectonic processes take part in desertification, clearly manifesting in the landscapes. In the eastern and central part of the territory, where the modern bending takes place, the influence of these factors is more clearly noticeable and is characterized by a gradual weakening towards the foothills.

In the sloping plain of the Lesser Caucasus foothills, the subsidence rate is 0-0.8 mm/year[19]. The occurrence of tectonic bending, resulting in intensive sediment accumulation, has manifested itself in the change of climatic elements, in the structure and dynamics of the modern landscape. In accordance with the neotectonic uplift in the foothills and lowland areas, the groundwater depth increases, and this process directly affects the increase in aridification in the landscapes.

Method and results

When determining the impact of morphogenetic processes on the desertification of landscapes in the studied area, modern and traditional (decoding of satellite images, application of topographic maps, application of ArcGis software and route-field, observation) methods were applied. From this point of view, in order to determine the density of fragmentation of the surface with dry valleys and ravines, which we consider to be the main indicators of desertification, a 1:200,000 scale horizontal fragmentation map of the surface was prepared by decoding satellite images (LANDSAT-8) based on ArcGis software. Figure 1.

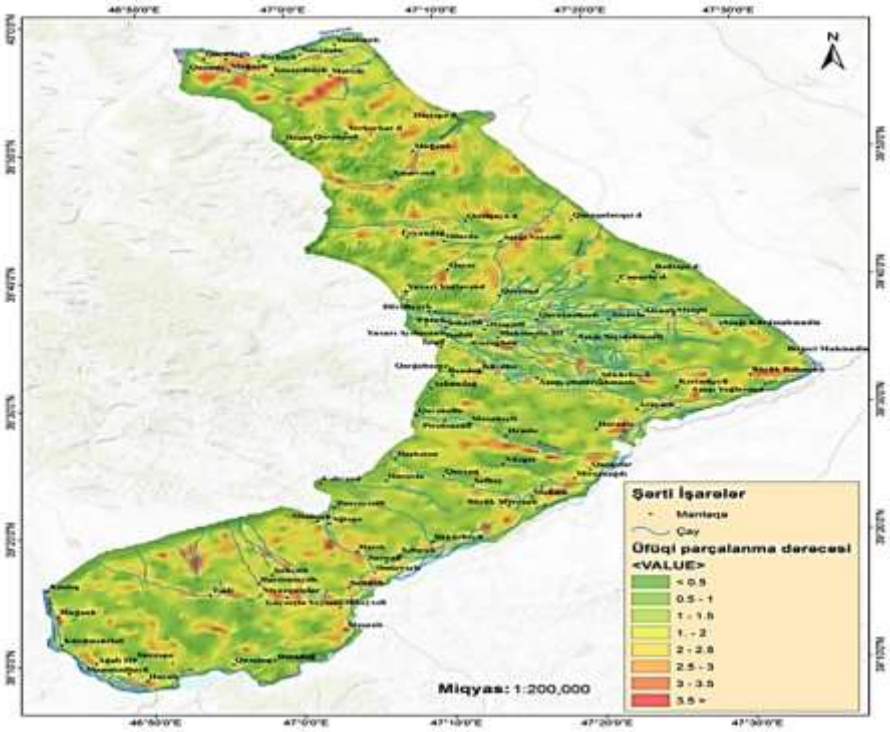

Figure 1. Horizontal division map of the front foothills of the Lesser Caucasus.

By checking the accuracy of the data of the selected observation sites on the map we prepared in real space, it was determined that erosion-denudation processes are mainly more active in semi-desert and dry-desert landscapes with a horizontal fragmentation coefficient higher than 1.5 km/km2 and a greater prevalence of desertification foci of various degrees. corresponds to those fields.

The grouping of landscapes according to the degree of desertification is a complex process, which primarily depends on the geological-geomorphological, climate, soil-vegetation features of the studied area, the direction of development of desertification, and the manifestation characteristics of the factors that cause it. While the landscapes in the studied area are grouped according to the degree of desertification, the main criteria for the total area are: 1) the degree of disturbance of the surface cover; 2) degree of surface covering with plants; 3) the intensity and direction of anthropogenic activity is taken as a basis.

While drawing up the desertification map of the studied area, using LANDSAT-8 satellite images, large-scale topographical maps and observation data from selected sites in different stages of desertification, a 1:100000 scale desertification map of the area was drawn up using ArcGis software (Figure 2).

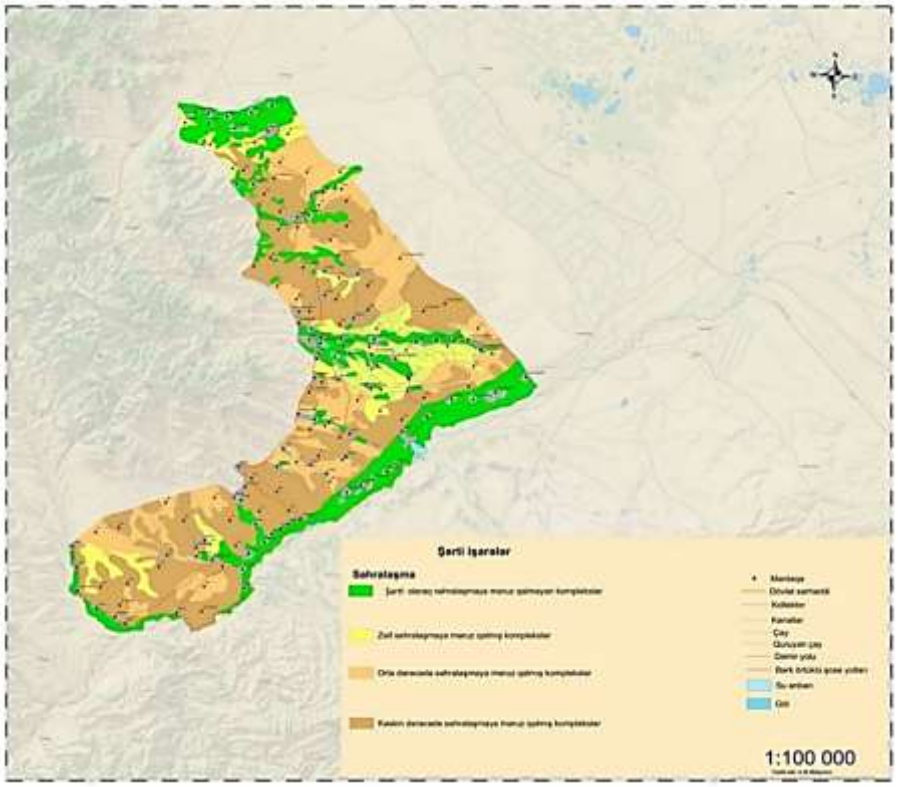

Figure 2. Degree of desertification of landscapes in the south-eastern front foothills of the Lesser Caucasus

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Alinja Mountains historical heritage of cultures, intersection in context

Asli Abbasova
Western Caspian University
esli.abbasova@wcu.edu.az

Abstract

The mountains represent an irreplaceable and fragile natural heritage, deeply intertwined with the world’s history and a rich cultural legacy. However, their uniqueness faces numerous challenges, including population decline and insufficient services. This situation is compounded by a systematic absence of cultural heritage assessment and efforts to find solutions, which can act as a strong antidote. Therefore, this article discusses the evaluation of cultural heritage through sustainable mountain development and initiatives that strengthen local and regional cultural ties. It provides a brief overview of the global natural heritage of mountains, emphasizing their climate, biodiversity, and the urgent need for protection. Mountains serve as vital ecosystems and are recognized for their biodiversity and essential ecosystem services. They rank among the second most popular categories of open-air spaces, alongside islands and beaches. However, global environmental changes are currently accelerating, leading to unprecedented shifts in mountain ecosystems, directly impacting millions of people reliant on these services. Additionally, increasing tourism places growing stress on fragile mountain ecosystems. This situation necessitates collaboration among scientists and stakeholders in the management and protection of mountain areas. Understanding the unique properties of mountains and their global ecological changes is crucial for appreciating their significance as part of humanity’s shared heritage. Thus, it is essential to evaluate the biotic and abiotic diversity of mountains. Accordingly, mountain destinations must develop infrastructure that promotes sustainable development and fosters a shared heritage, requiring collaboration among scientists, tourism professionals, and local communities.

Keywords: mountains; natural diversity; global heritage; history; Alinja Mountains

Introduction

This brief and selective survey of the Alinja Mountains examines their historical significance and the threats they face, utilizing the latest scientific literature to highlight their importance as part of Azerbaijan's heritage. These mountains boast a wealth of natural diversity, encompassing both biotic and abiotic elements, which underscores their global significance. However, the need to preserve this natural diversity is often recognized only in limited aspects. The danger scenarios that exist indicate that the mountains’ physical parameters must be understood in a broader context, including the need for cultural heritage protection. It is proposed that preserving the biophysical integrity of these mountains is intrinsically linked to safeguarding the cultural diversity of local communities. Therefore, collaboration among scientists, nature conservation specialists, tourism planners, and communication experts is urgently needed.

Methods

Any scientific research planlanmasının based on existing scientific methods is worthwhile. Scientific method – new knowledge, acquisition of basic methods, as well as any science, within the framework of toplumudur methods solving problems. The method of the case review phenomenon, methods, vəllər and new acquired knowledge sistemləşdirilməsini and duzəlişini covers. The scientific method is an important aspect of research when obyektivliyə is embedded in a high requirement. Free checking to make sure observations are made out, and other scientists are released.

Science, philosophy, empirical and theoretical knowledge of the concept are characterized. This section is concerned with the fact that the researcher's knowledge is both tested by the path (empirical) and complex logical operations, i.e. theoretically by the path can be obtained.

In this article, a theoretical study of the methods that Deduksiyadan has used, i.e. general information, based on individual results allows. That is, the subject, about new information, acquisitions of the same class and those based on the study performed. If knowledge-based inductive reasoning is achieved, if, then currently acquired knowledge, extending induksiyanı complement.

Alinja mountains and fortresses historical heritage

In Azerbaijan, the top of Mount Alinja of the Zangezur Range in the southeastern part of the Nakhchivan Autonomous Republic, Julfa district, in the territory of Alincəçayın is located on the right bank. The height of 1810 from 1821.4 m does not change. Mountains on the south-eastern slope of Khanag village, at the very top of the mountain, and the medieval Lincəkələ fortress is located. Mountain

lakkolitlərdən consists of.

Nakhchivan, high in the mountains is located to conquer the ne Alinjagala tower of amazing beauty and power in awe. About 2 thousand place overcome with the help of ancient buildings on the walls of the go vegetarian fortress special energy, they claim that. Alinjagala Azerbaijan is called Maçu Pikçusu. Towers, walls, mountains of Alinja yamaclarından starts and steps in shape, up, climb the top, completely covers.

The fortress, the road to the mountain stretching direction, decorated with stone, climbing stairs, passes. The local population of Alinjagal, in connection with nağıllarından is inspired more highly, we go true. At the beginning, the path is simple and it seems easy, and even to the finish line, who has reached to see each other yarışırıq. But how high it will be to climb so much is difficult. Roads are the middle when we realize that only the most dözümlülər will reach the top of the mountain. Adding a breath is obtained. Everywhere silence reigns below hardansa rare cars, sounds of the city, voices are not heard. Once upon a time, it seems to us that we have entered a different size and arrived several centuries in the past.

Ancient springs, so the castle was built two thousand years ago. Other historians claim that the Sassanid state was built in the 3rd-4th centuries. In medieval sources, the fortress period is the strongest defense tikililərindən of them, where it is noted. The Spanish diplomat, Castilian King III Enrikonun of the 1403-1406's. Timurids dövlətindəki ambassador Ruy Qonzales de Clavijo ,əlincəqalanı, described: "Alinjagala is a high and steep mountain where both qüllələrlə was surrounded. The walls, among the mountain slopes down, have vineyards, orchards, tarlalar, pastures, springs and pools. A castle or castle on top of a mountain is located. Folk etimologiyasında means " for some reason to give up” meaning giving Ölincaq is called. This fortress unavailable is due to the fact that”.

There are many historical facts connected with the earth. Thus, the Atabeg states of the years of existence (1136-1225)of the state treasury of saxlanılırdı. In addition to palaces and auxiliary buildings, most of the Shamsaddin Eldeniz period (1136-1175) is established. In the XIV century, Alinjagala of the Azerbaijani people, the great commander Tamerlane against the army, was the main bastion of the struggle. The defenders ' fortress has been fought four times against the invaders for 14 years. Gala yıxıldıqdan after the famous commander of the troops impregnable fortress capture that personally check to come here.

Alinjagala is an unusual landscape from abroad, attracting many tourists. Pandemiyadan back to Nakhchivan from different countries, numerous guests came. Russians in these regions, especially loved. The fortress walls of the mountain were completely held together, starting the slope along the rows-rows yüksələrək protects its top. The fort is an old support in neighboring villages, imported from baked bricks and built of stone. On the northern slope of yarımoval towers there are three walls, in the western slope, and in eight walls, ruins are preserved. On the monuments of the village fortress on the way guard, səngərlər and defensive towers were built. Alinjagala is mainly divided into three broad parts-the northern, north-western and south-western parts. In the northern part of the north-western and south-western parts, up to the people in the stone pilləkənlərə qalxırdılar. Strong fortress walls and steep cliffs, its inaccessible defense istehkamına fulfilled. The fortresses at the top of the small town are reminiscent, built of burnt bricks, many palaces and residential buildings, ruins and foundation stones are preserved. At one time, large feudal lords and serf generals, where the part of "şaxtaxtı" or "shah throne" is called.

In 2014, the restoration of the monument began and the archaeologists of Lincəqalanı can be said to have achieved the original position of saxlmağa. During excavations in residential and public areas, stables, stables, təndirlər, swimming pools, underground water pipes "kəhrizə" were discovered. Close to each other located in residential buildings in one of the rooms, whether it is a small oven with heated in them hand mills, pottery, axes, coins, preserved. Restoration work, after completion at the monument found during archaeological excavations exhibits reflecting the museum was built.

Construction approximate time of I-VI centuries. Both titles have Arabic and Turkish meanings. In Arabic, "Alinja" is the name of "Ali", "place, in Turkish“, and after capture "meaning". Alinjagala fortress in Nakhchivan Autonomous Republic. In the Julfa district, Lincəçayın on the right bank of the eponymous river is located on the top of a mountain. In ancient sources, it is called Alincaq, Alincik, Alancik, Alınca, Alancik. Researchers call the name of the ancient Turkic language "correct" in the sense of exhaust "alan" word with age. The fortress has a small area with a similar territory to the city. The walls, among the mountain slopes down, have vineyards, orchards, tarlalar, pastures, springs and pools. A castle or castle on top of a mountain is located. The folk etimologiyasında of the Ölincək castle is called, that is. "out of everything else." And this, in the fortress inaccessible due to the fact that”. There are several versions of the history of the fortress of construction. Some researchers, relying on sources, fortresses, history-2 thousand years ago, concerning, as a rule. "Kitabi-Dede Gorgud", narrates about Alinjagala strong fortress as

described. In medieval sources, Alinjagala is an ordinary castle, as noted. The historians Nashavi (XIII century), Sharafaddin Ali Yezi (XV century), the Turkish traveler Evliya Celebi (XVII century) and others give information about it. Alinjagala of greatness and a symbol of defiance. The gala, first of all, is an unusual appearance with people, mesmerizing. Towers, walls, mountains of Alinja yamaclarından starts and steps in shape, up, climb the top, completely covers. Towers of ancient walls, large stones and surrounding villages imported from baked bricks were built. On the northern slope of yarımdairəvi walls and towers are stacked three walls, in the western slope of eight walls, ruins, there are. Alinjagala is mainly divided into three broad parts: north, north-west and south-west. In the northern part of the north-west and south-west part of the stone to climb the stairs was built. The towers, strong walls and steep qayası of its impregnable defense istehkamına came true. Fortresses in the upper part of a small town, reminding built of burnt bricks, residential and public buildings, ruins attract attention. Chiefs and major feudal lords 'residences this place is called" Shah Təxti " (shah throne). Even 19th-century literature is like this. Alincagala feodallarına belongs to beautiful palaces and buildings, the remains have been marked. At one time in the fortress in the herd, cattle, horses and military equipment, along with 600 soldiers could be kept. Found high quality seladon china tablecloth qəlpəsi attracts attention. According to researchers, seladon dishes to Azerbaijan from China via the Great Silk Road were. Azerbaijan atabəylərinin, Eldəgəzilərin power during the Lincəqalanın period of important military fortifications as the importance of the ruling family increased became a refuge. Nakhchivan ruler Vs xatunun residence, Eldəgəsilərin treasury of Şlincəqalda here. 1225-Xorəzmşah Analysis of Mankburninin troops in Azerbaijan, during an attack in the Fortress, which Eldəgesidlərin the last ruler of Uzbekistan, in one of the battles were killed. In the XIII-XIV centuries. gala Xulakilərin, in the second half of the XIV century Cəlairlərin was at the disposal of. Sultan Tahir kings, Ustamur fortress commanders (1343), Haji Cövxar (1390), Amir Altunun (1390), Syed Ali, Haji Saleh and Ahmed Oğulşayın (1401) are names known. XIV century, in the 80-90th years of the Azerbaijani people Teymur troops, against 14 years of ongoing struggle for the main bastion was. 1393 th year, Timur forty thousand troops of the Alincəqalaya approaching. At the same time, Altunun with the command of a bunch in a hidden form, the rest leave the correct position, and the fortress darvazalarını captured the enemy from behind attacked him defeated. In 1397, in Sheki and in Georgia, the combined forces of the Çlincəqalada Teymuri warlord Sultan Səcarı, defeating the Sultan Tairi siege to liberate Baghdad sent. The fortress defense at one time was led by Seyid Ali, Haji Saleh and three Georgian aznaur (warlord). Alinjagala Teymurdan was very concerned. Timur in 1399 from India to Samarkand after the return of Elçidənəlincəqalın state information takes 4 months after with the army in the fortress is approaching. Fortress offensive 5-6 amir (commander) leads. Anlaşmazlıqlar as a result of the castle remains unprotected and surrenders. Its head Ahmed Oğulşayın's head was severed. Teymur in the fortress happens to suffer and is admired by him. Timur's death (1405) followed Alinjagal again to Cəlairlərin, and then Akkoyunlu power passed. The brother of Caanşahla, leading the power struggle of the ruler of the state of Kara-koyunlu Iskender Çlincəgələ finds shelter. Iskəndəri Губад Мирза öldürdükdən после Caanşah Əlincəqalanı занимает. At one time, Ağqoyunluların and then the Safavids, being at the disposal of Çlincəqal feudal feuds and wars, were destroyed as a result.

Alinja Castle in various studies

There are various studies and writings about the fort and the mountain surrounding the fort. This fact in each of them, we can say that in the fortress history and its culture occupies a place reflected. Azerbaijan newspapers July 12, 2019 in the publication Monuments, Alinja fortress entry on availability. In the publication, it is known that Nakhchivan is the interest of the architectural school of important examples from the Alinja fortress, throughout history by various names anılmışdır. Since the 10th century, this fortress, known as "Alıncaq," "Alancıq," and "Əlincə," is located on a steep mountain along the Nakhchivan-Julfa road, on the right bank of the Alincə River.

Alinja Castle

The construction of the castle in connection with, as opposed to opinions exist. Some researchers put it forward two thousand years ago. "Kitabi-Dede Gorgud", narrates about the Alinja fortress protected by fortified walls, which makes its historical significance emphasized. In the Middle Ages, Alinja's name, mountains, rivers and towers as recorded.

Throughout history in different areas of sülalələrinə that serve Alinja, the most Azerbaijan Atabələrinin iqamət place is known as. Even the great Jahangir Amir Temur in the fortress of power heyrətlənmişdir. Spanish diplomat Rüi González Clavijo, 1403-1406s during a visit to Lincəni high on the mountain, the walls and towers covered were elaborate as described. Inside, its vineyards, orchards, and springs were accessible.

The Safavids after the era were seriously destroyed, despite the fact that in the XIX century it also performed its functions. In the Alinja Fortress, historically and architecturally, how important is what is shown.

Jasmin Musayeva of Azerbaijan dated May 19, 2021, wrote to spite the Enemy-A fortress called Nakhichevan in an article in Nakhchivan, which contains a lot of monuments and information about dal. Here also Alinjacay xanəgahı availability information. It is qey that is in the Julfa district, located in the Alinca fortress, on the right bank of the mountain of the same name, on the top of a grandiose built according to the oldest times of the enemies of gözdağı dal. BC, built this castle," Erincaq"," Alancik "and" Alinja " adlarıyla is famous. "Kitabi-Dede Gorgud" tells the story of a protected fortified area depicted as; the walls, mountains of çtəklərindən, starting up to break through in its unbreakable defense istehkamına turns

The fortress is 600 to döyüşçünü, which can take a strip, enemies back to the converter powerful defense mechanism was. Amir Timur, 14 years old, the fortress was attacked for this, but he was captured in the implementation of data, he was not yet there. Only in 1399 after the defenders of the fortress left after Teymur won a victory here.

After Timur's death, and the fortress of Alinja, again the Azerbaijani states under the rule of düşmənlərlə continued the struggle. This is a fortress of historical significance and its fighting spirit is once again emphasized.

Julfa district, on monuments located in the village of Alinjacay xanəgahı, dating back to the Middle Ages in one architectural complex. Sheikh Khorasan, named after a complex of tombs, mosques and other structures, remains are available. The tomb, Uluq Qutluq Lala bey by order of the architect Xacə Din from the side was built, but built on the history is not exactly known, approximately in the XII-XIII centuries. belong.

The tombs are not less, whose grave to which belongs is not known, but the local population,

according to the hürufilik teachings of founder Fazlullah Naimi was buried here. For this reason, the complex "Sheikh Khorasan" is known by names, its sun-like, Arabic name, emphasizes. On monuments of historical and cultural significance that preserve the place.

Rovshan Huseynov Narodnaya Gazeta published an article titled Courage and Fortress - Alinja titled topics can eventually be divided into several categories.

Nakhchivan, Alinjachay, located in the valley of the Alinja fortress, is an ancient history and cultural heritage symbol known. This fortress has been witnessed for thousands of years in various periods of war, political battles and cultures. Great leader Heydar Aliyev said that Nakhchivan, every stone of our history, is a living witness.

Historical Significance

The fortress of Alinja, the Turkish Caliphate, is of strategic importance in various periods. First of all, Alinja, the Azerbaijani Atabegs in the period of Shamseddin Eldənizin power in an important center was. During this period, the fortress, the ruler of the family, security and but the treasure of this we, for protection purposes were not used.

Security System

The fortress guard system, surrounded by mountains, had strong walls and towers with enemy attacks, the most common items provided. The invasions of Timur during the fortress 14 years, during the protection of its strategic importance, than increased. Defenders, water supply in the problem with creativity to fight, leading the rocks of çəkməklə water system developed.

Cultural Heritage

Alinja fortress, at the same time, our ancestors and culture have been preserved. Archaeological research, resulting in the fortress's residential buildings, outbuildings, and swimming pools, has survived to this day. The name of the tower in history, in this context, is very etimologiya related; it is the "impregnable " yes", representing the "Olincik" word, formed maybe.

Global Value

Since 2007, world-class monuments included in the Alinja Fortress list have been widely studied by researchers. Supreme Majlis of the Nakhchivan Autonomous Republic, about the castle of voter information, its historical heritage, to protect the goal of güdmüşdür.

Foreign Witnesses

Nakhchivan, who visited the Spanish diplomat Ruy Gonzalez Clavijo, described the greatness of Alinja fortress with admiration. It, towers high and steep mountains, is located on, around gardens, springs and hovuzların noted that. This castle and its security systems confirm the strength.

Result

All this, in the Alinja fortress only defensive walls, and not at the same time mubarizlik and pride, the symbol shows that. This East Gate castle, the towering Nakhchivan "anthem and flag", is, our people's history, culture and heroism perpetuate decoration and symbol, perhaps. Every citizen is dear to history, to future generations, and it should be so.

"Julfa district" Alinjagala "history of the monument on the restoration of the Supreme Majlis of the Nakhchivan Autonomous Republic, Chairman February 11, 2014 No. 2” Alinjagala, "History of Culture" of the Museum also found its reflection. In sərancamın with the implementation, this monument once again, very carefully, scientific competence with the arashdırılaraq fortress of secrets, the discovery of our ancestors for us, left to the construction of the study of the culture and history of our people to restore its bright will contribute” (6)

Elkhan Mammadov, Modernizing in ancient Alinja in the article Alinja village and its historical past related described in detail. He said that Alinja village of Nakhchivan Autonomous Republic, at the exit of Julfa 35 kilometers, is located in the north, and here, about 800 population. The village has 1,573 hectares of territory with the population, the main occupations of animal husbandry, agriculture and arıçılıqdır. These plots are local residents ' daily needs of qarşılamaqla, along with their economic well-being and provides.

Historical Heritage and Reconstructions

Alinja throughout history has witnessed many bloody struggles, and has been destroyed several times. But people are determined and create, the desire is never sönməmişdir. The villagers, after the wars, in their yaşamlarını again to restore worked, today's modern rural conditions created. Currently, Alinja is a village of the Autonomous Republic, a noticeably different locality.

The village has beautiful nature and has plenty of water, the territory is a green place of transformation caused by it. This is also the village, the inhabitants of "Move you, bless me" and "El, though, mountain oynadar with a place like" the fathers of the word recalls. During this year, new social facilities, administrative buildings, schools, villages and service centers were commissioned in the village.

Social Infrastructure

The village center has three floors, the administrative building is located on. Here, communication networks, police stations, veterinary and paramedic-midwife points, "New Azerbaijan" Party territorial organizations, libraries, administrative offices, municipal and cultural centers are functioning. Cultural events center for a

51-seat meeting room with equipment.

The building on the 1st floor has 384 rooms, electronic PBX, Alinja and neighboring Xoşkeşin villages have 223 service subscribers. Mail in the Internet section and scratch cards for sale, daily printing, receiving and banking services are also available. Residents already know the right to pay for public utilities via mail in the afford section.

Medical and Veterinary Services

It is necessary to organize high-level veterinary service training. Alinja and Xoşkeşin villages covering the veterinary point, medicines to keep in the refrigerator, installed baytarlara exemplary working conditions are created.

Paramedic-midwives are provided, and four jobs are available, a room is allocated, preliminary medical services, necessary equipment and medicines are provided. Buildings for heating individual boiler houses are installed.

In social and Economic Activity

Service center for rural residents in order to meet the daily needs of hairdressers, women, beauty salon, food and household goods, shops covers. Here five people are provided with permanent work.

Village elders with conducted conversations, their comfort value is emphasized. Aksakal of the village Giyas Orujov noted that for the convenience of the population, creative people, this is what the city allows. Villages, roads, landscaping, schools and other social facilities, construction, and residents increase their well-being.

Learning Opportunities

Alinja in the village of 252 students of new schools and opened. Two floors, this school has 14 classrooms, laboratories, computer rooms, teachers and a sports hall. The most recent advances in information technology have been applied in school electronic lessons and Internet access to computers is provided.

Retired teacher Allahverdi Kalbalıyev, so modern conditions for teachers and students activity more canlandırdığını highlights.

Tourism Potential

Villages where the historical heritage, including the Alinja fortress, is located, increase the tourist potential. Chairman of the Supreme Mejlis of the Nakhchivan Autonomous Republic Vasif Talibov has ordered that the restoration of the Alinja fortress is planned. This is the restoration of the fortress as a historical monument, protection, as well as the "Alinjagala" Historical and Cultural Museum, the creation in conjunction with will be done.

Gala, Shamseddin Eldənizin during the reign of the Atabeks, the prime treasury was. In buildings, residential buildings, utility buildings, swimming pools, ditches existed.

Result

All these developments, Alinja village residents ' standard of living, increase the tourist flow and the region's historical heritage, which will have a positive impact on. The villages have a modern infrastructure, rich history and nature, a combination that will attract more tourists in the future. This is just Alinja village, not for, but for the whole region a significant progress.

This is the mountain, the atmosphere of some individuals yaradıcılığada sent made. One of them is Muzaffar Ölincəlidir. Doctor of Philological Sciences, Professor Nizami Jafarov" Alinja poeta under the title " in the article described this in detail. He notes that the Triumphant Çlincəli, with the name of a well-known poet of the ancient Nakhchivan province, was born and here is a word of art with abilities. The first poems of the "Nakhchivan song" almanaxında publication, though, of the Soviet period, the difficulties his exiled to Kazakhstan made. There is intelligence and work, thanks to which important positions have grown in society, won a position. But over time, homesickness did not make him go back. In the first six months of his return to his homeland, he published his first book at the age of sixty, entitled" Longing". Muzaffar Ölincəli, Nakhchivan region, a deep soul and a modern period of difficulties that unites the poet. His poetry, not just a word, is a master as not as a person and citizen in a deep anlamlar carries. With his work of the younger generation, he becomes an example of the motherland, love, humanity, the value of life and beauty, and receives. Muzaffarəlincəli's poems, on the one hand, sincere feelings, and on the other-society's struggle against the spirit is expressed not only in our literature, but also in a special place.

"Steep cliffs led by qərarlaşaraq Tamerlane the executioner, son of miranşahaəyilməyən, his fortress walls war ,əyilməzlik on the way of blood in plaster to Alinja fortress... what is now here is the tyrant by the troops of qaragoyunlu, nor his atlarının traces... left in History, and in the indomitable, courage, valor symbol that is my fortress Alinja. Now this fortress is not only Nakhchivan, but the whole Azerbaijani people in the struggle of özminin petrified salnaməsidir... Steep cliffs, and everything on the fortress of Alinja as this beautiful city grows to Baghdad in the world, almost half of one Fateh 14 years in the fortress of Alinja, why buy again, you know...The reason is only in this fortress, where the geographical relief, as well as, the people of yadellilərə throughout history against which does not change, determination, mubarizlyiidir... This is an unyielding fortress, and as you grow and build it, you realize that the top of the mountain is easy to climb, just above sea level about 1500 meters, at a height that does not stand still. Alinja is at its peak, and for 14 years of foreign armies, mubarizliyinə,

dönməzliyinə, wil, dözümlüyünə ,əyilməzliyinə envy and zirvədir are fighting here.

Theübarizlik symbol Ülincənin has a very ancient history. In ancient sources, these are fortresses, more than 2 thousand years old, where they are displayed. In the medieval written sources “Alıncik”, "Alınca", as noted in the Ölincənin name, the ancient researchers in the Turkish language “plain "sense of the word, used the "alan" word with associate. The folk etimologiyasına for the fortresses name "Ölincik”, meaning" Hand, shoot”, as in them really signifies. Its alınmazlığı and məğlubedilməzliyi are related to. According to Shamseddin Eldənizin, during the reign of the Azerbaijani state of Atabay, the prime treasury of exactly Lincəqalada was preserved. According to historians, the Azerbaijani Atabeg-Eldənizlərin power during the Lincənin period especially grew in importance, the ruler of the family to provide security in the place of refuge became. Nakhchivan ruler Vs xatunun residence and Eldənizlərin Treasuryəlincədə here. 1225-year Xarəzmşah son of Muhammad Analyzed Manqburnının during the attack on Azerbaijan by the Eldaniz ruler of Uzbekistan 1210-1225 is the fortress of sığınaraq and here, in one of the battles were killed. This is the courage and fortress of the XIV century, in the 80-90's Emir Teymura fighting against the main a kind of reference subject, turning into 14 years, bravely defended it. Timur, on hearing the Jalairi of Sultan Ahmed (1382-1410), but this treasure we, the family, the son, the close people placed in Baghdad are removed. The defense of the fortress of 300əsgərlə Amir Altuna is assigned.

Teymur 1386-1401-ies, in the fortress, 4 times processions received. The first campaign period (1386) around the castle, fierce clashes went down səngərləri so the defenders closer səngərlərə shot surrounded, took away. Timur's son by the troops of Qaragoyunlu from the encirclement, stored in the water supply of tükəndiyindən defenders to surrender were forced to remain.But the defenders of the fortress did not come out, heavy rain yağmış, water shortage shutdown, in which the castle for delivered was not. In 1393, Timur's 40-thousandth army launched an attack. At the same time, the mudafiəçilərin detachment accidentally, Altunun led from the fortress came out. They returned to dondükdə to lock Timur's door with troops, for which, upon seeing them, they attack. The correct strategic position of Altun and the warriors of teymurilərə gives great sacrifices. In this battle, Timur's 100-thousandth army sərkərdəsinin 2 of which were killed, and the defenders of the fortress do not know.

In 1397, in Sheki, both Georgian troops forming the Lincəyə attack and Teymuri commander Sultan Səncəri defeat uğradaraq Sultan Tahiri siege, and sends to Baghdad. In this news of the world's most powerful military force, the defeat of uğradan Amir Teymuru is outrageous. In the 1399th year, the 5-6 kmirin led by the military units sends. The fortress within itself is a conflict that resulted from the beheaded qaldığından surrenders. Fort kutvalı (chief) Ahmed Oğulsayi of Timur's hold (1401) is led to him and killed. And so dözümlülüyünün find out the reason for Teymur Personallyəlincəyə rises, someone watches, and his möhtəşəmliyinən stays.” (8)

Located in Nakhchivan, ancient mosques, caravanserais and vaults are also of historical significance. In particular, the Sheikh Fazlallah Naimi`s mausoleum here is an unforgettable cultural heritage specimen. Monuments in the process of restoration, their historical value, protecting the modern development of tourism in the region.

All these historical details, Nakhchivan culture, heroic history and modernity of the tourist potential of the students. Everyone from Nakhchivan to yaşatmaqla past along with future generations presents an unforgettable legacy.

Alinja named after Dede Gorgud, shim and the fact that exist. In this regard, many scholars in various fields yürüdüblər.

"Bartoldun and after that, the research conducted by söylədiklərimizin confirmed that this is true.

Boylarda, taking place in historical and cultural events, is indeed unfolding on the historical Azerbaijani lands, which Azerbaijan's outstanding scientists-Professors G. Arasly, A. Demirchizade, M. Shiraliyev, M. Guluzade, M. A. Tahmasib and others have confirmed in their research. Dastan's history, rich practice of construction of Ganja, Barda, Restoration, Şərurun, Alinja River and Alinja fortress, Dərəşamın, Goycha Lake, Ganja-Gazakh and the lands of Western Azerbaijan, which existed a number of names, places of laying and precisely aptly confirming facts.

Also, "Dede Gorguda" is more closely connected with Azerbaijan, which scientists and travelers who arrived in the Caucasus for various purposes have repeatedly noted.” (4)

Alinja is renowned for literature, along with theatrical productions that we can come to.

“In 2019 and on January 19, the writer, Poet Mustafayeva, a folk tale, wrote on the basis of which the” fortress of Alinja " work will not be shown at the Azerbaijan State Theater for Young Spectators.

Fairy tales-performances, director, People's Artist Jannet Salimova, composer, Honored Artist Aydin Özimovdur. The head of the structure, Honored Artist Sanan Hüseynliyə belongs to. People's Artist Yasin Garayev, Honored Artist Gulər Nəbiyeva, actors Rauf Muradov, Rəzzaq Mammadov, Qədirhüseyn Ismailov, Rovshan

Abbasov will participate in the performance.

Azerbaijani women of our motherland on the path of defending heroism and courage, which embody the performance, teenagers and young people in the spirit of patriotism, is dedicated to education.” (3)

From these sources, each of them told Alinja about different aspects of their research.

Cultures crossing mountain tourism in the context of

In the modern tourism industry, the global mountain tourism sector is witnessing a remarkable evolution. This is particularly true in South Korea, as in the regions showing itself, Bomun Lake Resort destinations like this attract millions of visitors every year. Such resorts develop mountain tourism, hospitality, ranging from recreation to various sectors that connect and significant employment opportunities that create a multi-faceted system that can be demonstrated.

Mountain tourism is no longer just a scenic beauty, but one of adventure, culture and recreation that embodies a single experience embraces. Various tourist experiences the growing demand for various interests meeting integrated mountain destinations has caused growth - excitement axtaranlardan adventure, sports axtaranlardan, ranging from nature, plunge into which to relax peacefully those who are up to. It is an evolution, however, of travelers now having their own values and aspirations with resonance, representing individual experiments in the search for consumer behavior to change reflects.

In this regard, mountain tourism within the framework of the” cultural island " concept has found a wide place. This visitors of local cultures, customs, traditions and manners to get acquainted with can travel their experience, can increase the məkanlardır. For example, the New Zelandiyadakı traditional Maori culture evenings as visitors experiment with the local people's rich history and traditions, and plunge into being allows the land and its heritage with a deeper connection creates.

Mountain tourism continues to grow, as tourists and the public alike, attraction to give preference is important. The following actionable tips for stakeholders in developing countries to manage can help

1. Sustainable decision-making practices please: tour operators protect the natural environment for future generations, ensure conservation for renewable energy sources and use waste to a minimum, as eco-friendly practices should adopt. This is a continuous journey of growing consumer demand functions with matching.
2. Local Participation is encouraged, please: Local communities, tourism development, attracting not only visitors, the experience of zənginləşdirməklə along, but also tourism, economic faydalarının paylaşılmasını provides. Therefore, the local population to guide or master, to be offered training programs, can be achieved, thus, their culture and skills can be demonstrated.
3. Diversification suggestions please: Modern tourists of different interests to respond to destinasiyalar their suggestions should expand. This travel option, no matter for those who have everything to ensure the health of istirahətlərini, education seminarlarını and adventure idmanlarını can enter.

In Nakhchivan, the former istilalarına against a bold position, famous for the history and rich culture of the castle that Alinja is located. Popular heroic battles of nağıllarının over time resonated caused by the city's rich heritage of bitter xatırlatmasıdır. It is the historical background of not only its people, dözümlülüyünün is not proof, but also tourism, in particular, increasingly economic growth and cultural exchange, which has become the center of mountain tourism transformation, understand the potential that sets the stage for.

The strategic importance of its political, military and economic picture has been shaped throughout history. A fortress of historical stories perseverance and boldly characterized, Alinja called the ancient poemada express feelings that reflect, in böyüklüyün often people face the trials of their creation he says. This is the historical foundation of mountain tourism as a modern development, a development that can create a unique background.

Mountain courage and burgeoning mountain tourism are industries with each other participating in a history of cultural and economic revitalization demonstrating potential. Destinations as travelers evolve to meet the changing requirements of novelties during their irslərini must be considered. Alinja, as a place of continuity, taking local contact, enhancing and offering şaxələndirməklə not only in its keçmişlərinə with all due respect to along, but also the global tourism picture developing the future can open the way.

Results

Alinja Galasi Azerbaijan's historical and cultural heritage is an important example. The Zangezur range, located in the south-east of this mountain peak, not only beautiful pictures, but also the historical past attract attention. Dating back to the Middle Ages, which is an Lincəkələ fortress, the strategic importance of the defensive wall in different periods of the warlords ' struggle is attested to.

The towers, strong walls and steep cliffs of its inaccessible fortified steel that battles take place here have left an important mark on the history of

Azerbaijan. The fortress is at the same time a tourist center, as well as the foreground of local residents, fairy tales and historical facts with a rich culture and heritage that serves to preserve.

Since 2014, the restoration work at the beginning of this historical monument has been passed on to future generations in terms of importance. Alinjagala, as well as archaeological research, is an object in ancient cultures and localities of information about it. It is a mountain peak, not only of historical value, but also with at the same time, cultural attractions and natural beauty and attracts attention.

The fortress of Alinja, Nakhchivan, a historical and cultural heritage symbol, rich past and mubarizlik with spirit comes to the fore. Throughout history, various sülalələrə served as fortresses, and Azerbaijan's strategically important monuments from. Defend its mechanism and date döyüşlərdəki role, fighting and unyielding with the character of our people, pride, symbol has become. To future generations, this legacy to pass on the restoration and protection of work is important.

The modern mountain tourism sector, particularly in South Korea, as well as in the regions, is rapidly developing. Bomun Lake Resort has such destinations as millions of visitors, attracting, along with tourism on a multilateral value system demonstrates. This sphere, hospitality, recreation, while many sectors are united and creates significant employment opportunities.

Mountain tourism, already just a scenic beauty, consisting of never-before-seen adventure, culture and recreation, unifying the experience of steel. Tourists in a variety of relevant integrated growth destinations, individual and private tracing practices reflects.

Island culture concepts, local customs, traditions and manners get acquainted with the stay provides an opportunity. For example, in New Zealand, traditionally held Maori culture evenings, visitors to the local culture go down into the depths gives the opportunity.

For mountain tourism, the following tips are important for sustainable development:

1. Sustainable decision - making practices please: Eco-friendly application practices, environmental protection is important to.
2. Local Participation Encourage, please: Local communities in tourism participation increase the economic benefits of equal distribution helps.
3. Diversification suggestions, please: Different interests to meet the suggestions that are important.

In Nakhchivan, located in the Alinja fortress, historical and cultural heritage in terms of significance is an example. This castle, müharibələrdəki courage and the people of dözümlülüyünü symbolizes. Mountain tourism development is of strategic importance, further enhancing the economic revitalization of cultural exchange and ample opportunities for tourism.

In this context, the history of the modern tourism industry is brought together, and new opportunities are promoted by discovery. Alinja as a place of continuity, taking local connections, enhancing and offering şaxələndirməklə, a global tourism picture developing the future can open the way.

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Azərbaycanın dağlıq ərazilərində aşkarlanmış numizmatik faktlar

Məmmədova Aygün Musa qızı

Milli Azərbaycan Tarixi Muzeyinin Numizmatika Fondu, böyük elmi işçi,
Qərbi Kaspi Universitetinin müəllimi, tarix üzrə fəlsəfə doktoru
Email: aygun_kons@mail.ru
+99450 631 17 44
ORCID: 0000-0002-0274-5191

Xülasə

Məqalədə ilk dəfə olaraq Azərbaycanın müxtəlif rayonlarındakı (Quba, Xızı, Şamaxı, İsmayıllı, Naxçıvan) dağlıq ərazilərdə aşkarlanmış numizmatik faktlar – müxtəlif dövrlərə aid sikkələr haqqında məlumat verilib.

Azərbaycanın həm daxili pul təsərrüfatı, həm də xarici ticarət əlaqələri haqqında məlumat toplamağa yardım edən belə tapıntıların fotolarının təqdim edildiyi məqalədə ətraflı numizmatik şərh verilmişdir. Müxtəlif metallardan (gümüş və mis) zərb edilən sikkə nominalları, müxtəlif dövrlərə aid zərbxanalar, hökmdarların titulları, sikkələrin fərqli görünüşünün açıqlandığı məqalə təcrübi baxımdan önəmlidir. Sikkələrin məhz Azərbaycanda aşkarlanması milli numizmatikamızla əlaqədar bir sıra qənaətlər təqdim etməyə imkan yaradır.

Hazırda bir sıra muzeylərdə, şəxsi kolleksiyalarda saxlanılan belə materialların qorunması, beynəlxalq səviyyədə təbliğ edilməsi, tədrisdə tətbiq edilməsi vacib məsələlərdəndir. Qərbi Kaspi Universitetində “Numizmatika” və “Qafqaz xalqlarının numizmatikası” fənnlərinin tədrisində belə tapıntılar əsas material olaraq istifadə edilir.

Açar sözlər: dağ, Azərbaycan, gümüş, mis, sikkə, numizmatika, muzey

Giriş

Azərbaycan Respublikası Prezidentinin Sərəncamı ilə 2024-cü il Azərbaycan Respublikasında “Yaşıl dünya naminə həmrəylik ili” elan edilmişdir (8). İqlim dəyişmələrinə qarşı qlobal mübarizə ilə əlaqədar beynəlxalq həmrəyliyin gücləndirilməsi məqsədilə 2030-cu ilədək Azərbaycanda ətraf mühitin sağlamlaşdırılması, yaşıllıqların bərpası və artırılması, su ehtiyatlarından və dayanıqlı enerji mənbələrindən səmərəli istifadənin təmin edilməsi istiqamətində işlər aparılır.

Məqalədə Azərbaycanın müxtəlif dağlıq ərazilərində ötən əsrdə aşkarlanmış numizmatik faktlar – müxtəlif dövrlərə aid sikkələr haqqında məlumat toplanılmış və numizmatik şərhi verilmişdir.

Hazırda bir sıra muzeylərdə, şəxsi kolleksiyalarda saxlanılan bu materialların qorunması, tədqiqi və təbliği müasir dövrümüzdə əhəmiyyət kəsb edir. Təcrübi əhəmiyyətli belə tapıntıların tədris prosesində tətbiqi, gənc nəsilə öyrədilməsi xüsusilə aktualdır.

Azərbaycanın daxili pul təsərrüfatı və xarici ticarət əlaqələri haqqında məlumat toplamağa yardım edən sikkələr zərbxanaların, hökmdar adları və titulları, dövrün dini inancı, yazısı barədə məlumat verən dəyərli faktlardır.

1. **İlk orta əsrlərə və orta əsrlərə aid Azərbaycan sikkələri.** 1920-ci ildə Quba qəzasının Beşbarmaq dağı ətrafında, dənizdən bir neçə verst uzaqda gümüş sikkələrdən ibarət küp tapılmışdır. Sikkələrin numizmatik təyinatı nəticəsində I Xosrov (531-579) dövründə zərb edildiyi məlum olmuşdur (5, s. 43; 9).

Numizmatik faktlara əsasən, Sasanilər sülaləsinin hökmdarı I Xosrov (531-579) hakimiyyəti dövründə 40-dan artıq zərbxanada gümüş drahma və mis paşizlər zərb edilmişdir (9). Belə sikkələrə pəhləvicə yazılarla yanaşı Yəzdəgird erasına müvafiq zərb olunma tarixi, taclı şahənşah büstü, atəşgah və mühafizəçilərin təsviri, zərbxana həkk edilib (1, s. 9).

1906-cı ilin sonunda Xızı rayonu yaxınlığında, Altıağac kəndindəki dağın uçurumunda (3,5 m dərinlikdə) saxsı küp tapmışdır. Küpdə 8 gümüş bilərzik və 348 ədəd mis və bilon sikkələr var idi.

Numizmatik təyinata əsasən sikkələrin şirvanşah – Kəsranilər - Mənüçöhr ibn Əfridun (hicri 514 - 544 = 1120 - 1150), Əhsitan ibn Mənüçöhr II (hicri 555 – 593 = 1160 - 1197) və Şahənşah ibn Mənüçöhr II (hicri 593 – 600 = 1196 - 1204) dövründə zərb edildiyi məlum olmuşdur (5, s. 49-50; 3, s. 45).

Şəkil 1. Gümüş drahma. Sasanilər. I Xosrov (531-579), Naxçıvan, 43-cü hakimiyyət ili, 3,9 q

Şəkil 2. Mis fels. Şirvanşahlar. III Mənuçehr bin Əfridun (1120-1150), Şamaxı, 3,1 q

1928-ci il iyulun 15-də Şamaxı rayonunun qərbindəki Qız Qalası (Qaleyi Gülüstan) dağının ətəyində ayrı-ayrılıqda tünd bürünc şirvanşah – kəsrani sikkələri (2 ədəd) tapılmışdır. Sikkələrin biri I Gərşasb bin Fərruxzadın (hicri 600 - 630 = 1203 - 1233), digəri xəlifə əl-Müstəsimin (640 - 656 = 1242 – 1258) və III Fəriburz bin Gərşasbın (hicri 630-653 = 1232 - 1255) adından zərb edilib (6, s. 31).

2.Son orta əsrlərə aid Azərbaycan sikkələri. 1910-cu ildə Naxçıvanın Qarabağlar kəndindən 1,5 km şərqdə, Qalacıq qalasının xarabalığında, dağda gümüş sikkələr olan küp tapılmışdır. Sikkələrdən birinin Səfəvi hökmdarı Hüseyn (hicri 1105 – 1135 = 1693 - 1723) dövrünə aid gümüş abbası olması məlum olmuşdur (6, s. 52).

Bu hökmdar dövründə Azərbaycanın pul təsərrüfatında məhəmmədi, şahi və abbasi adlanan gümüş sikkələr zərb edilmişdir (4, s. 133-148).

Şəkil 3. Gümüş abbası. Səfəvilər. Hüseyn (1105 – 1135 = 1693 - 1723), Təbriz, 1134 = 1721-1722, 3,28 q

Sultan Hüseynin sikkələrinə onun adı “vilayət şahı” titulu ilə, hicri təqvimlə, rəqəmlərlə zərb ili,

zərbxana və “Allahdan başqa ilah yoxdur, Muhəmməd Allahın elçisidir, Əli Allahın yaxınıdır” sözləri və 12 imamın adları həkk edilmişdir.

Numizmatik faktlara əsasən, bu hökmdar dövründə qızıl sikkə - əşrəfi (3,46 q) Qəzvin, Məşhəd, İsfəhan, Şiraz, müxtəlif çəkili gümüş abbasılar (1,3 – 36,3 q) isə Naxçıvan, Gəncə, Təbriz, Rəşt, Qəzvin, İsfəhan, İrəvan zərbxanalarında zərb edilmişdir (9). Azərbaycanda nəşr edilmiş “Azərbaycanın Səfəvilər dövlətində sikkə işi” əsəri belə sikkələrə həsr edilmiş dəyərli tədqiqatdır (4).

1928-ci ilin iyul ayında İsmayıllı rayonu, Fit dağının yamaclarında iki ədəd mis sikkə aşkarlanmışdır. Sikkələrdən biri hicri 107* = 1660-1669 ildə zərb olunmuşdur (at təsviri ilə), digəri üzərində isə qılınc rəsmi təsvir edilmişdir. Bu mis sikkələrin Şirvan xanlığında zərb edildiyi məlum olmuşdur (6, s. 59).

Belə sikkələrə xanın adı həkk edilmirdi. Şamaxı xanlığının gümüş sikkələrinə - abbasılara zərbxana, hicri təqvimə müvafiq zərb ili (rəqəmlərlə) və dini ifadələr (“Ey sahib əz-zaman!”, “Ya kərim!”), mis sikkələrinə - felslərə isə zərbxana, təsvirlər (at, öküz, bitki) zərb edilirdi. Xanlığa aid qızıl sikkələr məlum deyil.

Numizmatik araşdırmalara əsasən, xanlıqda gümüş sikkə zərbi Məhəmmədsəid xan (1763 - 1767) zamanında başlamışdır. Əsgər xan, Qasım xan və Mustafa xan (1794-1811) dövründə fasilələrlə davam edən belə zərb XIX əsrin 20-ci illərində bitmişdir (2, s. 255).

3. XVIII əsrin sonu – XIX əsrin əvvəlinə aid sikkələr. 1927-ci ildə Naxçıvandakı Əshabi-kəhf dağında XVIII əsrin axırlarına aid mis Naxçıvan fulusu aşkarlanmışdır. Sikkənin üzərində iki balıq rəsmi təsvir edilib, amma zərb ili qeyd olunmayıb (diametr = 29 – 30 mm). Sikkə Naxçıvan Diyarşünaslıq Muzeyinə təhvil verilmişdir (7, s. 63).

1928-ci ildə elə həmin dağda (İsmayıllı rayonu, Fit dağ) 1802-ci (və ya 1822) ilin Rusiya mis sikkəsi aşkarlanmışdır (6, s. 68).

1928-ci ilin iyul ayında Şamaxı rayonundakı İlan dağın yamacında 1829-cu ilin gümüş Rusiya 25 qəpikliyi və 1819-cu ilin mis qəpiyi aşkarlanmışdır (6, s. 67).

Şəkil 4. Mis qəpik. Rusiya. 1819-cu il.

Nəticə

Yuxarıda qeyd etdiyimiz sikkələr Azərbaycanın pul təsərrüfatında müxtəlif tarixi dövrlərdə başlıca nominal olaraq işlənən sikkə vahidləridir. Bu sikkələrin Azərbaycanda aşkarlanması numizmatik qənaətlərin dəqiqləşdirilməsinə imkan yaradır.

Numizmatik etika barədə maarifləndirmə, ətraf mühiti qorumaqla yanaşı tarixi sərvətlərə sahib çıxma müasir dövrümüzdə vacib məsələlərdəndir.

Azərbaycan sikkəsi iki min ildən artıqdır ki, milli dövlətçiliyimizi müşayiət edir və çoxsaylı örnəkləri ilə onu təsdiqləyir. İstənilən sikkə dəfinəsi əvəzsiz tarixi qaynaq, unikal maddi-mədəniyyət abidəsidir. Sikkə dəfinəsi torpağa gömüldüyü dönəmdə ölkənin pul təsərrüfatında və sosial-iqtisadi həyatında baş verən dəyişiklikləri, daxili və xarici ticarətin səviyyəsi və arealını, siyasi-konfessional durumunu əks etdirən «numizmatik foto»dur.

Respublikamızın ərazisində aşkarlanan numizmatik tapıntılar – sikkələrin tədqiqi sayəsində Azərbaycan dövlətçiliyinin köklərinin uzaq keçmişə getdiyi və bu tapıntıların həmçinin dini inanclarımızın tədqiqi və təbliğində faktiki əhəmiyyət daşıdığı məlumdur.

Müasir numizmatların maraq dairəsində olan və kolleksiyaçıların yığım vasitəsi olan sikkələr muzeylərə təhvil verilməli, müvafiq qorunma qaydalarına uyğun saxlanılmalı və təhsil müəssisələri də daxil olmaqla bu tapıntıların təbliği davam etdirilməlidir.

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Abstract

Нумизматические факты, обнаруженные в горных областях Азербайджана

Айгюн Маммадова

1)Национальный Музей Истории Азербайджана, фонд Нумизматики, старший научный сотрудник,
2) преподаватель Западно Каспийского Университета, доктор философии по истории
Email: aygun_kons@mail.ru
+99450 631 17 44
Orcid: 0000-0002-0274-5191

В статье впервые представлена информация о нумизматических фактах - монетах разных эпох, обнаруженных в горных районах Азербайджана (Губа, Хызы, Шамахы, Исмаиллы, Нахчыван).

В изложении подробно отражены нумизматические выводы, представлены фотографии таких находок, раскрывающие информацию как о внутреннем денежном хозяйстве, так и о внешнеторговых связях Азербайджана.

С практической точки зрения статья предоставляет особый интерес. Основной ценностью работы является исследование номиналов монет, чеканенных из разных металлов (серебра и меди), их разновидностей, монетных дворов разных периодов, титулов правителей. Обнаружение монет именно в Азербайджане позволяет сделать ряд выводов, относительно национальной нумизматики.

Сохранение, пропаганда на международном уровне и применение в учебном процессе таких материалов, хранящихся в ряде музеев и частных коллекциях составляет важную проблему современности. Такие находки ныне применяются при преподавании предметов «Нумизматика» и «Нумизматика народов Кавказа» в Западно Каспийском Университете.

Ключевые слова: гора, Азербайджан, серебро, медь, монета, нумизматика, музей

Numismatic facts found in mountainous areas of Azerbaijan

Aygun Mammadova

1) National Museum of History of Azerbaijan, Numismatical Fund,
senior researcher, PhD in History, 2) teacher in Western Caspian University.
aygun_kons@mail.ru
orcid: 0000-0002-0274-5191

The article for the first time presents information about numismatic facts - coins of different epochs discovered in mountainous regions of Azerbaijan (Guba, Khizi, Shamakhi, Ismayilli, Nakhchivan).

Numismatic findings are reflected in detail, photos of such finds are presented, revealing information about both internal monetary economy and foreign trade relations of Azerbaijan.

From a practical point of view, the article is of particular interest. The main value of the work is the study of denominations of coins minted from different metals (silver and copper), their varieties, mints of different periods, titles of rulers. Discovery of coins in Azerbaijan allows making a number of conclusions about national numismatics.

Preservation, propaganda at the international level and application of such materials stored in a number of museums and private collections in the educational process is an important problem of our time. Such finds are now used in teaching the subjects “Numismatics” and “Numismatics of the Caucasian peoples” at the Western Caspian University.

Keywords: mountain, Azerbaijan, silver, copper, coin, numismatics, museum

Gakh - the land of major mountains and historical monuments

Aysel Kukhmazova

Design school, Western Caspian University
Email: Adios Mariachi igrainesiellis@gmail.com

Abstract

Gakh district, one of the charming corners of Azerbaijan, with its charming nature, is surrounded by mountains covered with blue mist, dense forests, waterfalls with crystal clear water, and lively rivers full of fish make this beautiful land attractive.

The territory of modern Gakh, which has an ancient history, was a province of Caucasian Albania. The Albanian temple of the 5th-6th centuries located here, the Kurmuk temple built on the ruins of the ancient Albanian monastery on one of the hills of Gakh in the 5th century, and the small basilica of the 5th century that once functioned as a church in the village of Gum can be proof of this. The "Jinli" fortress of the 9th-14th centuries, the temple complex of the 12th-13th centuries, the "Fairy Castle" of the 15th-16th centuries, the temple of the 16th century, the castle gates and walls, the Haji Tapdig mosque of the 16th-17th centuries, located in the territory of the region Ilisu Mosque, a historical and cultural reserve dating back to the 18th century, attracts many tourists to the region.

Ilisu mountain village with its ancient houses, cobbled streets, castles and temples is considered the unique pearl of Gakh. The village of Ilisu is famous for the ancient Ulu-Korpu bridge, the defensive Sumug-Fortress, and the dilapidated fortress called Galacha named after Sheikh Shamil.

A small basilica dating back to the 5th century in Gum village, one of the oldest villages in Azerbaijan, is one of the only remaining traces of ancient Caucasian Albania. The architectural complex named "Yeddi Kilsa" in the village of Lakit-Kotuklu in Gakh is shown to be the center of the episcopate of the Albanian Church.

Gakh is rich not only in history, but also in natural monuments. The rare Mamyrli (or Damcili) waterfall in the depths of the shady forest near the village of Lekit, and the Ram-Rama waterfall located above the village of Ilisu are among the wonders of Azerbaijan, which are most visited by tourists who like to relax in the bosom of nature.

If you want to see the authenticity of the Caucasus, then you should go to Gakh district, where Azerbaijanis, Ingiloi, Lezgi, Sakhur and other peoples of the country live together.

Keywords: Azerbaijan, Gakh, dense forest, mountains, castle, temple, waterfall, Ilisu, Sarıbash.

Gakh is one of the most beautiful cities in the north-west of Azerbaijan where different cultures are mixed together. Gakh, which has a fascinating nature, is surrounded by mountains shrouded in blue mist, dense forests, waterfalls with crystal clear water, flowing rivers full of fish make this beautiful land attractive.

However, it is not known exactly why the area is called "Kakh". There are several assumptions: 1. the tribe living in this area is called "Qaq", and then the word changes to "Qakh"; 2. "Kakh" is translated as "fortress", and archaeologists have discovered the ruins of ancient fortresses in the city. 3. "Ga" is a place of residence, "Ah" is a river. When the words are combined, the toponym "Kakh" is formed. Gakh region is located on the southern slope of the Main Caucasian ridge (Avey, 3481 m, Garagaya, 3465 m), in the Ganikh-Eyrichay valley and the Ajinohur plain. Ajinohur plain is divided into Dashuze and Khojasen ridges and Ajinohur plain. Jurassic, Neogene and Anthropogenic sediments are visible on the surface. Quartz, building materials are important natural resources. Ajinohur has a semi-arid and dry desert climate, while the Ganikh-Eyrichay valley has a mild and hot climate.

Precipitation in the mountains is evenly distributed, and there is a lot of precipitation in all seasons. The mountain tundra climate prevails in the mountains. Mountain forests are inhabited by bears, mountain goats, wolves, wild cats, wild boars, jackals and other animals.

Gakh region of Azerbaijan has an ancient history. According to archaeological excavations, this area was inhabited during the Eneolithic, Bronze and Early Iron periods. Remains of the activities of these early inhabitants show that they were mainly

engaged in sedentary agriculture, animal husbandry and art. According to historians, the territory of Gakh was part of the Scythian kingdom in the 7th century.

Originally, the territory of modern Gakh was a province of Caucasian Albania. After that, the region became a separate kingdom of Kakheti under the cultural and political influence of Georgia. In the Middle Ages, the region was mainly controlled by the Kingdom of Georgia and Shirvan.

During the existence of Caucasian Albania, some Christian churches were built in the Gakh region with the spread of Christianity throughout the region. In the 8th century AD, Gakh came under the rule of the Arabs. Starting from the 11th century, the first Oghuz Turks lived in the area, and later the Tsikchans, and the region was included in the Great Seljuk Empire. Later, Gakh was part of the states of Atabays and Shirvanshahs. Tatar-Mongol nomadic tribes settled in this region in the 13th century with the Hulaki's attack on Azerbaijan. In 1562, by the order of the Safavid Shah Tahmasib I, the Ilisu Sultanate was founded in Gakh. In the 18th century, the Sultanate of Ilisu became so strong that the Ottoman emperor recognized its ruler, Ali Sultan Bey, as the Beylarbey of Sheki, and gave him the highest title of Pasha.

In 1803, the Sultanate of Ilisu was merged into the Russian Empire. The ruler of the Sultanate, Daniyal, inspired the people to revolt against Russian rule in 1844 due to differences between them and the Russian government. Sultan Daniyal was defeated near the village of Ilisu, but he continued to fight against the Russians together with Imam Shamil, the leader of the national liberation movement. By burning Ilisu, the Russians divided the territory of the sultanate into mahals (territorial units) and united it with Jaro-Balakane (territorial unit), turning it into a colony of Tsarist Russia. In May 1918, when the Azerbaijan People's Republic declared its independence, Gakh was kept within Azerbaijan. In 1860-1917, Gakh was part of Zagatala district of Tiflis governorate. In 1917-1918, it was part of the Transcaucasian Democratic Federal Republic and in 1918-1921, it was part of the Democratic Republic of Georgia. In 1930, during the years of Soviet rule, Gakh was established as a district of Azerbaijan SSR.

Gakh is a small town with long green streets and stone houses on both sides. More than 20 nationalities live here peacefully! This is the region where Georgians, Azerbaijanis, Sakhurs - one of the peoples of Dagestan, Ingiloi, Lezgi, Jews and many other peoples live together. Next to ancient mosques, ancient Albanian temples have been preserved, roads are paved with cobblestones, and every house is a fortress. It is known for its amazing intermingling of different cultures, wealth of ancient monuments, temples, and forts. There are Georgian Orthodox Church, Albanian temple, Friday mosque, museums reflecting the lifestyle and culture of local people.

Houses in Gakh are unique: they are built of baked bricks and their roofs are covered with red tiles. Along the street, the castle walls, drainage system, and natural stones, which have absorbed the antiquity, always attract the attention of tourists. The old-timers say that at one time there was a blacksmith shop for the opera singer Muslim Magomayev's grandfather Mahomet.

Acquaintance with the city of Gakh starts from the ancient building quarter of Icheri Bazar (Old Bazar). Icheri Bazar is a whole ancient neighborhood founded in the 17th century. This cultural monument is a kind of open-air museum. Restored a few years ago, this fortified complex consists of tiled houses and craft workshops. Several settlements and barrows (Chalcolithic-Iron Age, Bronze Age) were discovered in the area. Albanian temple of the V-VI centuries, Ilisu mosque, a historical-cultural reserve of the XVII century. "Cinli" fortress from the 9th-14th centuries; temple complex of XII-XIII centuries; "Fairy Castle" XV-XVI centuries; XVI century temple, castle gates and walls; Haji Tapdig Mosque of the XVI-XVII centuries. There is a theater, craft workshops and Nasimi Park. Ancient exhibits - carts, household utensils, carpets and other items are of great interest.

There are more than 60 historical monuments of national and world importance in the city. One of them is the Kurmuk temple located on the top of the green hill. The Kurmuk temple was built on the ruins of an ancient Albanian monastery on one of the hills of Gakh in the 5th century and is named after the river of the same name.

The way to it goes through a dense forest, along a well-trodden path. Behind the heavy wooden door opens a circular hall with frescoes, icons, and candles. The temple is protected as a historical monument. According to historical information, in 1892, tsarist Russia created a Christian church on the basis of the temple. There are no priests or devotees in the temple; the temple "comes alive" during Kurmuk holiday. At this time, religious rites and celebrations are held here, with the participation of both Christians and Azerbaijanis. On this holiday, especially Gakh is treated with special respect among the Georgians who come to this holiday together with their families. This temple is an example that residents have not forgotten their ancient belief systems after adopting monotheistic religions - Christianity and Islam. As a result of archaeological excavations conducted in 2006, the remains of ancient buildings were discovered in the territory of the temple.

Each region of Azerbaijan has its own pearl. In Gakh, it is undoubtedly the mountain village of Ilisu. Ilisu is one of the ancient villages of Azerbaijan, located at the intersection of the Kurmukhchay and Agchay rivers, in a beautiful place surrounded by mountains and forests, 12 kilometers from the city of Gakh. Ilisu is an open-air museum with ancient houses, cobbled streets, castles and temples. In ancient times, most of the population of Ilisu were artisans. Each tribe practiced a certain art and it was passed down from tribe to tribe. There are healing mineral springs near the village. Bear, mountain goat, wolf, wild cat, wild boar, jackal and other animals can be found in Ilisu Nature Reserve.

Two kilometers from the village of Ilisu, there is an ancient Ulu-Korpu bridge with a vaulted arch. Ulu Bridge was once the only place connecting Ilisu with the plain. It was erected on Kurmukhchay at the turn of the 19th-20th centuries by a folk craftsman named Omar. During the Ilisu sultanate, this bridge played the role of the only point connecting Ilisu with the plain. The Ulu bridge has been steadfastly resisting the continuous attacks of the stormy river for three centuries and serves the people today. It received its Ulu name - old, ancient - much later. You cannot drive on it - today it is a protected historical monument. But it is possible to walk on a new bridge built by residents. During construction, they used river stone, lime mortar, and... egg yolk. Residents attribute the strength and durability of the bridge to this.

Arriving in Ilisu, it is simply impossible not to see the "Sumug Gala" fortress (XVII century), because it is located on a small hill and offers amazing views of the surroundings for kilometers. Sumug fortress is one of the last battle fortresses of Sultan Ilisu Daniil-bey, a brave ally of Sheikh Shamil.

Sumug-Gala is a defensive building, with a mosque in the middle. The defensive structure is surrounded by a low fence along its entire perimeter. The top of the tower is surrounded by fences. Paving stones have been laid on the road to Sumug Gala. Today, a branch of the Gakh History and Local History Museum named "History of Ilisu Sultanate" operates inside the castle. There are several considerations regarding the name of the tower. According to legend, the fort was built by Ilisu ruler Sumu Khan.

Near Sumug-gala there is a dilapidated fort called Galacha, which became famous after its history related to the name of Sheikh Shamil. It has a circular shape and is located so that you can see all the roads leading to the village from it. The observation deck offers a magnificent view of the mountains. There are also clay graves from the 1st century BC. According to what was said, it was here that the supporters of the leader of the Caucasus Mountains hid from the Russian troops. Built of river stone and lime mortar, the fort has observation and shooting holes around its perimeter. All trails leading from the castle to Ilisu village can be observed and controlled. It's not easy to get to Galacha - the way to it goes up a narrow path. From here, a magnificent panorama of Ilisu, buried among green hills, opens. Galacha is a fortress protected by the state.

Gum village, one of the oldest villages of Azerbaijan, is located 8 kilometers from Gakh. This place is considered the birthplace of the genius Azerbaijani poet Nizami Ganjavi, who lived and created in the 12th century.

In Gum village, there is a small basilica dating back to the 5th century, which once functioned as a church. This basilica is perhaps one of the most important places that has an incredible cultural impact not only on the history of Azerbaijan, but also on the history of the whole world, because it is one of the only remaining traces of ancient Caucasian Albania. Its construction dates to the period between V-VI centuries. The basilica of Gum village is located a short distance from Gakh itself, on the bank of the Gum river. The design of this space with its rectangular hall is no less spectacular, divided into three naves by two rows of columns. The characteristic features of the composition: the presence of an external gallery, the lack of connection between the altar and the side rooms, horseshoe arches, the combination of brick and stone in the masonry, as well as other details make it look like a monument of the Byzantine period. This can be interpreted as a reference to the buildings of the Byzantine period. With its clear plan and expressive architectural composition, the Gum basilica represents the development of the style of basilica-type temples in Transcaucasia and belongs to the group of monuments that complete the initial stage of basilica development.

In the upper part of the village there is a 13th century Syrt fortress. The Sirt fortress was established on a hill in the upper part of the historical Gum village, on the high place of the present Chinarli village. The date of construction is attributed to the VII-VIII centuries (which is also not exact). Built of baked bricks. The castle consisted of four towers surrounded by arches. Only one of these towers has come down to our time. It is reported that the other 3 towers were blown away because of natural effects. It can be reached only by mountain road.

Sakhurs, an ancient people known for their hospitality and hard work, live in Gum village. They played an important role in the development of Caucasian Albania, they first adopted Christianity and then Islam. Sakhurs are engaged in cattle

breeding, farming, weaving and are famous for winemaking.

There is a big rapid waterfall 5 kilometers from Gum village. The water descends from a height of several steps, forming natural baths below, where you can swim in the summer heat.

The village of Lekit with 1600 years of history is located 12 kilometers from Gakh. It is one of the most remarkable places in the region. The picturesque place is surrounded by walnut groves. In the center of the village there is a mosque built of stone and limestone in the 18th century.

The church in Lekit village is an ancient Albanian temple located 1 km from Lekit village of Gakh district. In terms of construction techniques, the history of the church dates back to the IV-VI centuries. It is believed that the temple was converted into a church during the reign of the Albanian ruler Vachagan in the 4th century. The Lekit round temple is located south of the village of Lekit, Gakh district, on the edge of a hill rich in hazelnuts. Like other circular Albanian temples, the Lekit church has circular walls on the outside.

A few kilometers away from the village of Lekit of the Gakh region of Azerbaijan, on the road to the village of Lekit-Kotuklu, there is an architectural complex consisting of several religious buildings called Seven Churches. The remains of nine buildings are clearly visible here, popularly known as the "seven churches" because of the existence of the name of the complex. According to several authors, these may be mausoleum-chapels built in the 9th century. This complex belongs to XI-XIII centuries. Alexander Khakhanov, an orientalist of the second half of the 19th century, briefly described this group of structures in his report on his travels to the Caucasus, suggesting that Lekit could have been the center of the bishopric of the Albanian Church due to the ruins of numerous architectural buildings.

Gakh is rich not only in history, but also in natural monuments. One of them is in the village of Lekit, where Sakhurs, one of the small peoples of Azerbaijan, live. In the depths of the shady forest near the village of Lekit, there is a rare Mamyrli (or Damcili) waterfall. Mamirli waterfall became famous because of the green moss covering the entire slope where the water flows into the stream. The water seeping through the rocks helped the moss to grow. As a result, the slope resembled a soft emerald carpet. The name "Mossy" of the waterfall is associated with a long-term process, as the waterfall is covered with green moss. The waterfall is located 550 meters above sea level. The waterfall itself is 15 meters high and 30 meters wide. There is a small cave inside the waterfall, which is one of the wonders of Azerbaijan, located in the heart of nature, but it is not so easy to get inside.

Another waterfall - Ram-Rama is located above the village of Ilisu. At 75 meters high and surrounded by forest on all sides, the 25-meter high Ilisu waterfall (also "Ram-rama"), flowing down the cliff of the Caucasus Mountains, is the highest waterfall in Azerbaijan. Locals call it the pearl and it also has unique mountain views. Ram-Rama waterfall descends from a high cliff and Ilisu village is located at an altitude of 1400-1600 m above sea level. The location of Ram-Ram itself is interesting because it is surrounded by centuries-old dense forests, where you can breathe differently thanks to the purest mountain air. Stormy streams of icy and crystal clear water fall from a rocky mountain cliff and everything surrounding it is boiling with colors and life. But in winter, it becomes no less beautiful, because everything in this already fascinating landscape takes on a completely different aesthetic, turning into a fascinating frozen wonderland.

Due to its magnificence, the Ram-Rama waterfall can rightfully be considered one of the most beautiful natural phenomena of Azerbaijan.

At an altitude of more than 1600 meters in the Caucasus Mountains, the highest mountain village of Azerbaijan is located - the ancient village of Saribash. It is so remote that in some seasons it can be cut off from the rest of the world by a stormy river. Here you can see unique stone architecture and amazing majestic mountains.

According to historical sources, Amir Teymur used to go north from this settlement. Nadir Shah conquered Dagestan and settled here with his army. Therefore, Sarıbash is sometimes called the village that saw two prominent rulers.

The village was created by sakhurs, representatives of the sakhur branch of the Caucasian nationalities. But over time they assimilated and today they consider themselves Azerbaijanis.

The inhabitants of Sakhur village separated from their society and moved to another slope of the Caucasus range and founded Saribash village. The local Georgian, Christian population could not tolerate such closeness with the newly arrived Muslims. Gathering a large army, they opposed the people of Sarıbash, who had learned of the impending attack, and set up a blockade a mile and a half below the village. Traces of this destruction are still visible.

Such a fortification was impenetrable for the Georgian army, but despite this, the battle continued for several days. Finally, seeing the impossibility of capturing the siege, the besiegers divided into two detachments: one continued the attack on the blockade, and the other circled.

This group passed through the Ak-Chay-dera valley and climbed to the hill dominating Saribash.

Descending from there, the Georgian army attacked the village, leaving only weak old people, women, and children. The old people were in the mosque at that time and were praying. The enraged army entered the mosque and destroyed all the people there. Then they killed all the women and children, destroyed some buildings, and returned.

This mosque is currently called Shahidmek-Era, meaning the place of martyrs; The mountain where the Georgians descended to the village is called Gurcju-Goshun (Georgian army). The news of this terrible massacre reached the Sakhurs, Khnovs and other highlanders, who attacked the Georgian army and completely defeated them. Some of them were killed, some were captured, and the rest were later expelled from Alazan. The Gakhs were also punished for their treachery.

In Sarıbash village, surrounded by mountains, every valley, mountain pass, and plateau has meaningful names. "Ala Goz", "Gaya Alti", "Dash Uchan", "Hunlar", "Garşı Dağ", "Gyunakhay" and other places have a bright, original history.

Saribash witnessed many wars in the Caucasus. Passing through Saribash, ruler Ilisu Daniyal bey joined the ranks of Sheikh Shamil. Historical houses built in the same period are a heritage from ancient times. Later, these regions became famous as estates of beys.

Thus, Gakh region, one of the most beautiful regions of Azerbaijan, distinguished by its nature and culture, is memorable for its amazing landscapes - lush forests stretching along the mountain slopes and springs flowing through centuries-old trees. The area is also famous for its healing mineral springs, which not only improve health, but also provide comfort and relaxation, a kind of escape from a life full of stress and hardships. Gakh is undoubtedly a tourist paradise that can fascinate any visitor.

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Видеоэкология как наука о экологии зрительнго восприятия и основа формирования архитектурной среды будущего

Айсель Талыбова

НАНА Институт Архитектуры и Искусства
отдел «История и теория архитектуры»

“...Город! Это символ борьбы человека с природой, символ его победы над ней. Это рукотворный организм, призванный защищать человека и создавать ему условия для работы. Это плод человеческого творчества…”
Ле Корбюзье

Аннотация

Сегодня проблема формирования визуальной среды не затрагивает требований по допустимым отклонениям, в частности, по допустимым размерам гомогенных и агрессивных полей в архитектуре города. При этом проблемы видеоэкологии заключаются в том, что в науке до сих пор не разработаны определенные методы исследования, нормативные документы, что обусловило на территориях современных городов наличие неблагоприятных для зрения человека агрессивных и гомогенных зон.

Архитектор и дизайнер не должны забывать, что город создается для человека. Заботясь о внешней стороне проектируемого города необходимо помнить о проблемах видеоэкологии, с которыми сталкивается человек в большом городе. Ошибки проектировщиков могут привести к тому, что городская среда весьма пагубно отразится на здоровье человека.

Ключевые слова: визуальная архитектура, видеоэкология, восточные и западные мотивы, архитектурная среда, окружающая среда, гомогенная среда

Еще в глубокой древности было известно, что окружающая видимая среда оказывает большое воздействие на жизнь и поведение людей. Бодрость и оптимизм жителей южных берегов благоприятных уголков Земли, таких как Италия, Испания, Греция и других стран, в значительной степени объясняются комфортной визуальной средой. Следует отметить, что человек большую часть своей истории жил в полном согласии с природой. Его окружала естественная визуальная среда, которая является наиболее комфортной, отвечающей всем нормам зрительного восприятия. Архитектура прошлых столетий положительно влияла на визуальную среду города. Следуя стилевым направлениям в искусстве, каждое архитектурное сооружение было неповторимо. Богатый декор фасада, различная форма окон, затейливый силуэт крыши, все это создавало видимые акценты, за которые глаз мог зацепиться. В мозг поступала при каждой саккаде новая информация, что позволяло всем рецепторам работать в режиме, установленной природой. В результате человек не чувствовал утомления и раздражения [1, с.199-201]. Однако такого преимущества лишены жители многих современных городов, где нормой стали большие плоскости, прямые линии и углы, однообразная окраска, а также статичность большей части зданий и сооружений. Все это влияет на человека и, в частности, на его орган зрения.

Сегодня в современных городах идет процесс урбанизации, который снижает художественную выразительность зданий, способствующую решению градостроительных проблем, на основе массовой застройки районов. При строительстве зданий во многом доминирует экономика. Из-за этого здания проектируют как прямоугольные «серые коробки», которые полностью лишены индивидуальности. В современных городах идет масштабная

застройка «спальных» жилых районов, где люди чувствуют на себе давление от густо застроенных микрорайонов. Все это составляет неблагоприятную среду в местах проживания человека.

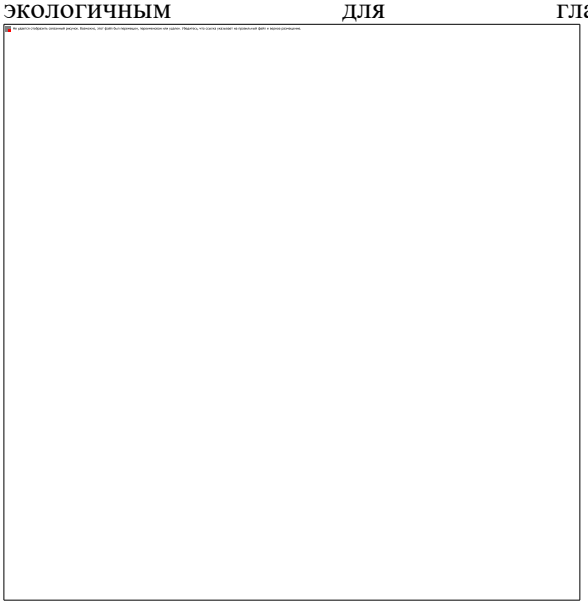
Впервые термин «видеоэкология» был разработан доктором биологических наук Филином В. А. – родоначальником этого нового научного направления, где вся окружающая видимая среда рассматривается как экологический фактор. Она имеет большое значение для человека, где около 80 % информации человек получает через органы зрения, т. к. глаз – самый активный из органов чувств, он никогда не стоит на месте и постоянно перемещается [3, с.263].

Во все времена, архитектура была долговечным пластом культуры, в котором материализованы физические и интеллектуальные усилия цивилизованного общества, где объекты архитектуры, прежде всего, должны радовать глаз. Они должны положительно воздействовать как в эмоциональном, так и в нравственном отношении на человека, который находится под их влиянием всю жизнь и, конечно, они не должны наносить ущерб здоровью горожанина.

А. Н. Тетиор также отмечает, что: «…видимая среда многих крупных городов становится противоестественной, создает психологический дискомфорт…». Рассматривая проблему эстетического «загрязнения» А. Н. Тетиор приводит его основные признаки: - гомогенная, монохромная и монотонная архитектурная среда; - невыразительность зданий; - нарушение масштабности и симметрии в фасадах зданий, дисгармоничная непропорциональность объемов; - возведение немасштабных ландшафту зданий; - отсутствие композиционного и гармоничного единства с природной средой; - образование крупномасштабных агрессивных сред и локальных полей визуального дискомфорта [6, с. 44].

Сегодня архитектура диктует новые тенденции и полна гомогенной среды. Применяемые современным строительством материалы, так широко и часто используемые сегодня, во многих случаях могут быть губительными для психоэмоционального состояния человека. Гигантское здание, полностью выполненное из однородного материала, также отрицательно влияет на зрение. Человек, по мере приближения к нему, оказывается в окружении гомогенных полей, фиксации взгляда на каком-либо элементе не происходит.

Само по себе стекло, безусловно, может применяться в качестве строительного материала, но увлечение большими стеклянными поверхностями и другими однородными фасадными панелями наносит вред облику города (рис. 1), [4, с.43]. Таким образом, мы наблюдаем, что важнейшее значение имеет декор, то есть наличие зрительных элементов, способствующих улучшению вида зданий и делающих его более экологичным для глаза.



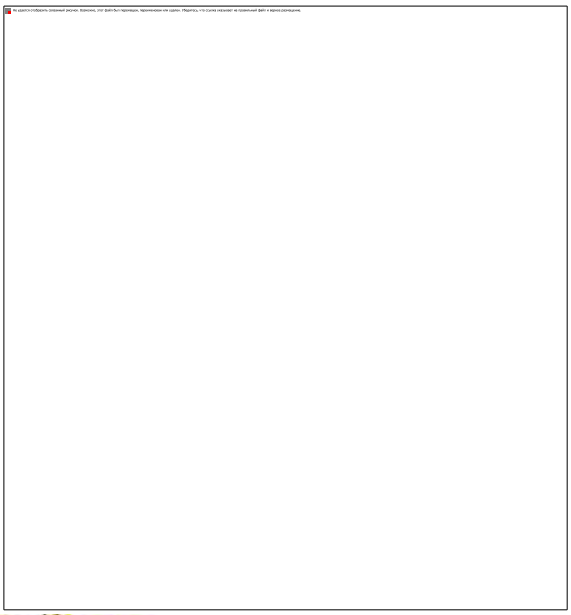


Рис.1, 2. Конкурсное здание в Берлине, Дом Ф. Хундертвассера в Вене

Обсуждение

К примеру, дом Хундертвассера в Вене, без сравнений, выглядит значительно экологичнее конкурсного здания в Берлине (рис. 1, 2), поскольку,

при взгляде на него завораживает его необычная эклектичность с элементами, взятыми из разных стилистических направлений.

При рассмотрении проектов храмов модернизма и постмодернизма, в России можно наблюдать новые архитектурные объемно-планировочные решения, отказ от «архитектурных излишеств». Такие храмы в русской культуре сразу ассоциируются с «новоделом». Каждый архитектурный элемент храма помимо конструктивной функции так же имеет очень глубокий символический смысл. Авторы многих научных трудов посвятили свои

исследования символики храмовой архитектуры. Например, в крестово-куполных храмах столпы (колонны), которые поддерживают купол, с одной стороны выполняют несущую функцию, с другой стороны, на них изображают тех, кто проповедовал христианскую веру, в духовном смысле они символизируют собой подвижников, которые были «столпами» церкви. Новизна в храмах возможна, но в рамках традиций. В архитектуре храмов издавна выражалась красота и гармония [2].

Также в восточно-европейской стилистике выполнено здание Исмаилия – ныне здание президиума Академии наук Азербайджана, которое по всем традициям видеоэкологии может считаться экологически правильным. К тому же ряду можно отнести и великолепие одних их самых красивых зданий Баку – исполненное в стиле французской неоготики, здание дворца М. Мухтарова, основанное в 1911-1912 гг. Архитектором И. Плошко, особняк И. Гаджинского (архитектор И. Эдель, 1910-1912 гг.) и многие другие здания Баку того периода, имеющие полное право называться визуально экологическими зданиями.

Позже, в современном мире, в среде обитания человека произошло ухудшение визуальной среды, являющейся одним из важных компонентов его жизни. Были «загрязнены» города, жилые и производственные помещения, транспорт, производственные процессы.

Рис.3. Элементы декора здания дворца М. Мухтарова.

Рис.4. Особняк Гаджинского (элемент декора)

"Загрязнителями" визуальной среды являются гомогенные и агрессивные визуальные поля, а также изобилие прямых линий, прямых углов и больших плоскостей. Все это составляет неблагоприятную среду в местах обитания человека и приводит к росту числа психических заболеваний, к увеличению количества людей, страдающих близорукостью и т. п.

Создание новых принципов, архитектурно-художественного формообразования, начавшееся

с конца 1950-ых годов и обусловленное острой необходимостью расширить горизонты композиционного мышления в области средового дизайна и архитектуры, сопровождалось первым серьёзным изучением всего структурного разнообразия пространственных форм. Возник широкий интерес к объектам «нелинейной» пластики, как к округлым сферическим формам, так и к объектам складчатой геометрии. На волне этого интереса начали возникать принципиально новые концепции пространственного формообразования, подчас полностью исключающие использование прямых углов и параллельных плоскостей. Черты нелинейного подхода к формообразованию стали характерными для творческого почерка таких мастеров, как Пьетро-Луиджи Нерви, Ээро Сааринен, Оскар Нимейер [5].

Очередной «виток» обострённого интереса к экологическому мироощущению был обозначен на рубеже XX и XXI веков, когда ряд крупных мастеров средового дизайна и архитектуры, вслед за природными стилизациями

эпохи модерн, вновь обратился к поиску органических истоков формообразования. Одним из ориентиров нового периода служил стиль А. Гауди, поражающий оригинальностью пластики и разнообразием использования ритмических основ природного формообразования.

О том, что связь между архитектурой и другими видами науки существует, было известно в древности. То, что творения рук человеческих влияют на психику и самочувствие индивида, было доказано еще в Древнем Египте. К примеру, древнеегипетский архитектор Имхатеп, руководивший строительством пирамид, в то же время был практикующим врачом, энциклопедически образованным человеком. Именно потому, что тайны визуального восприятия были известны египетским архитекторам, пирамиды до сих пор поражают нас своей величественностью и напоминают о мощи фараонов.

Результаты

Современные архитекторы при строительстве новомодных “высоток”, без каких либо украшающих элементов, школ и детских садов в виде коробок должны учитывать не только экономическую сторону проекта, но и воздействие здания на окружающую среду с точки зрения видеоэкологии. Она призвана обеспечить эстетическую привлекательность, комфортное восприятие человеком различных архитектурных сооружений. Видеоэкология как наука имеет перспективы дальнейшего развития и впоследствии станет определяющим критерием при строительстве современных городов.

Ну и напоследок, хотелось бы закончить фразой такого незаурядного архитектора, как Кензо Танге: “Архитекторы должны помнить, что города грядущего закладываются уже сегодня, и стремиться к восстановлению утраченного во многих поселениях союза человека с природой”.

Выводы

В проектировании городской среды видеоэкология играет важную роль, т. к. это один из важнейших аспектов в градостроительстве и проектировании.

Сейчас встает острая необходимость в исправлении уже допущенных ошибок в архитектурном дизайне и в изменении существующих неблагоприятных зон. При этом можно утверждать, что для необходимой благоприятной среды следует выполнять все нормы зрительного восприятия, как в проектах зданий городской среды, так и в любой другой структуре, затрагивающей жизнедеятельность человека.

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Abstract

The environmental approach to the visual perception of eastern and western motives in architecture

The article is devoted to the analysis of architecture from the point of view of its visual expressiveness and considers the theory of “ecological perception” based on the work of V. A. Filin and the last work of J. Gibson “The ecological approach to the visual perception”

Keywords*:* visual architecture, videoecology, eastern and western motives, homogeneous environment

Xülasə

Memarlıqda Qərb və Şərq motivlərinin görmə vasitəsilə qavrayışına ekoloji yanaşma

Məqalə memarlığın vizual ifadəliliyi baxımından təhlilinə həsr edilmişdir və V.A.Filinin əsəri, C.Gibsonun son əsəri olan “Görmə vasitəsilə qavramaya ekoloji yanaşma” əsasında “ekoloji qavrama” nəzəriyyəsini nəzərdən keçirir.

Açar sözlər*:* vizual arxitektura, videoekoloji, şərq və qərb motivləri, homogen mühit

Formation of Sufi shelters as cultural centers

Aytan Salimova[1], Fuad Baghirov[2]

[1]The Azerbaijan University of Architecture and Construction, [2]The Western Caspian University

Abstract

This paper explores the formation of Sufi shelters, or khanegahs, in Azerbaijan and their significant role as cultural and spiritual centers throughout history. Sufism flourished in Azerbaijan, influencing religious, intellectual, and social life, especially through the Suhrawardiyya, Khalwatiyya, and Safaviyya brotherhoods. These shelters served multiple purposes beyond spiritual refuge, offering education, medical care, and shelter to travelers and the poor. Prominent figures such as Sheikh Zahid and Seyid Jamaladdin contributed to the spread of Sufism in Azerbaijan, embedding Sufi practices within the region’s cultural and architectural heritage. The revival of Sufi orders in post-Soviet Azerbaijan underscores their enduring influence on contemporary society, not only in spiritual development but also in addressing modern social issues. Today, Sufi centers hold potential for providing rehabilitation services for those facing substance abuse, depression, and other challenges, thereby enhancing moral and ethical values. By examining the evolution of Sufi shelters, this paper highlights their profound impact on Azerbaijani culture and their relevance in addressing contemporary social needs.

Introduction

The state of the Shirvanshahs emerged in the 3rd century as a feudal domain under the vassalage of the Iranian Sassanids, with its own taxation and fiscal policies that reflected periods of independence, evident from the epithets on their minted coins. The Shirvanshahs’ realm became a political and cultural hub, contributing significantly to the development of high culture in Baku, Shamakhi, and Derbent, including the spiritual realm, with Sufism finding fertile ground in these regions.

Sufi brotherhoods that emerged in Azerbaijan in the 13th-14th centuries - Suhrawardiyya, Khalwatiyya, Safaviyya, representatives of the Shiite-Sufi community of Khurufiyya. Sufi centers of Naqshibandiyya and its branches of Alawiyya operated in the northwestern zone of Azerbaijan - in Sheki, Gakh, Balaken, Zagatala could not but influence the further development of the ideas of Sufism. In the Lankaran region, there were Sufi centers of Sheikh Zahid (13th century), Pensar (Butasar) Seyid Jamaladdin (12th-13th centuries). In the Jebrail region - the Sufi society of Qadiriyya in the village of Shikhlar; in the Guba region - the khanegah of the Sufi Sheikh Khalwatiyya in the village of Pirvahid, etc. Nizami Ganjavi, a classic of Azerbaijani ideology, belonged to the Ahi Sufi brotherhood. We have no information about Fizuli's (16th century poet and thinker Muhammad ibn Suleiman) belonging to the Sufis, but a semantic analysis of his works shows that, unlike the Koranic "fear of God's wrath", Fizuli's poems praise love for God, and moreover, his work is rich in Sufi motifs.

During the period of the Azerbaijani khanates, one of the manifestations of Sufism can be considered the veneration of the pirs by the people. Around which the monasteries of Sufi sheikhs were located. One of such large waqfs in the Baku Khanate can be called "Bibi-Heybatpiri", in the Karabakh Khanate - the waqf of the Gevher Aga mosque, in Ganja - the waqf of the Imam-zade shrine, etc. The socio-political situation in the Caucasus as a whole, the colonial policy of the tsarist government led to a change in the goals of Sufi ideology, the emergence of Muridism. Sheikh Ismail had a huge influence in the dissemination of Muridism in Dagestan and Chechnya.

Sufism flourished in Azerbaijan, becoming influential across neighboring regions. Shiite Sufism, in particular, persists today in Azerbaijan, manifesting as a form of intellectual-mystical Gnosticism. Though the formalization of Sufi belief is generally traced to the 8th century AD, its roots can be identified even earlier, arising from a mix of Christian monastic and Muslim ascetic traditions. This is reflected in the ancient epic of the Turkic peoples, *Kitab Dede Korkut*, which contains Sufi motifs.

Historical Evolution of Sufism

Islamic scholars categorize the evolution of Sufism into three distinct periods:

1. **The Period of Asceticism (Zuhd)**: Characterized by personal spiritual practices focused on piety and renunciation of worldly desires.
2. **The Period of Sufism (Tasawwuf)**: Marked by the development of mystical traditions and teachings.
3. **The Period of Sufi Brotherhoods (Tariqat)**: The formal organization of Sufi orders or brotherhoods.

By the 11th and 12th centuries, Sufi brotherhoods, known as tariqats, began to emerge and spread across the Islamic world, including in Azerbaijan. These brotherhoods played an essential role in the spiritual and intellectual life of the region. Sufi shelters or khanagahs (from the Persian *khane*, meaning “house”) became centers of enlightenment and learning, especially in the fields of philosophy and medicine. These institutions served as alternatives to the madrasas that were dominant in the broader Islamic world by the 11th century.

The Spread of Sufism in Azerbaijan

Sufi movements in Azerbaijan gained momentum in the 10th century, during the weakening of the Abbasid Caliphate. Several influential Sufi orders developed in the region, including Suhrawardiya, Khalvatiya, and Safaviya. The northwestern zone of Azerbaijan, including Sheki, Gakh, Balaken, and Zagatala, became notable centers of Sufism. Prominent Sufi figures such as Sheikh Zahid (13th century) and Seyyid Jamaleddin (12th-13th centuries) contributed to the spread of Sufism in regions like Lenkaran, Jebrail, and Guba.

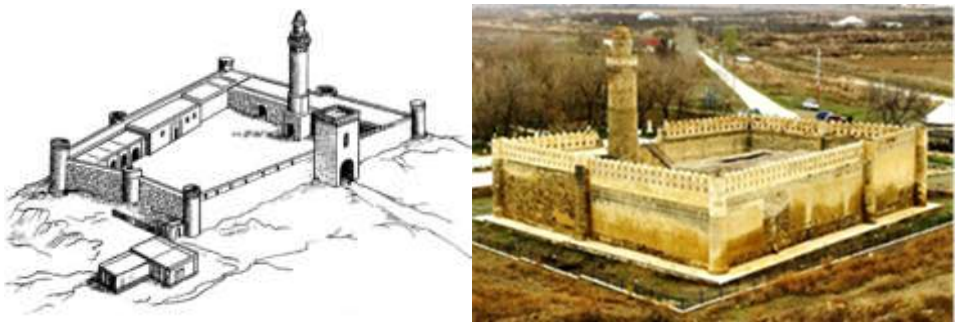
Sufi brotherhoods like Suhrawardiya continued the traditional practices of Azerbaijani Sufism, including the performance of loud (collective) and silent (personal) zikr (remembrance of God). Sufi societies such as Khalvatiyya and Naqshbandiyya also spread their influence, particularly in the 13th and 14th centuries, contributing to the growth of Sufi centers across Azerbaijan.

Prominent Sufi Orders and Figures in Azerbaijan

- **Suhrawardiyya**: After the Mongol rule, Suhrawardiyya maintained traditional Sufi practices in Azerbaijan, which led to the emergence of branches like Shattariyya, Baha'iyya, and Jalaliyya in the 16th and 17th centuries.
- **Zahidiyya**: Founded by Sheikh Zahid Tajeddin Ibrahim Gilani, Zahidiyya became the precursor to the Halwatiyya and Safaviyya orders.
- **Safawiyya**: Established by Sheikh Sefi ad-Din in the 14th century, Safawiyya evolved into a powerful political and military force, eventually leading to the establishment of the Safavid dynasty in Iran.
- **Halvatiyya**: A Turkic Sufi order, Halvatiyya spread from Azerbaijan to Anatolia, becoming influential in the wider region.
- **Yasawiyah**: The Yasawiyah order's influence in Azerbaijan is evident in the Sufi hanegah of Sheikh al-Hussein ibn Ali on the bank of the Pirsagat River.
- **Hurufiyah**: Founded by Fazlallah Naimi Astrabadi, Hurufism gained a following in Azerbaijan, with the poet Nasimi becoming a prominent proponent of its ideas.
- **Naqshbandiyya**: This order, established in the 14th century, played a significant role in resistance movements in the Caucasus during the 19th century, particularly during the Caucasian War.

Sufi Shelters as Architectural Monuments

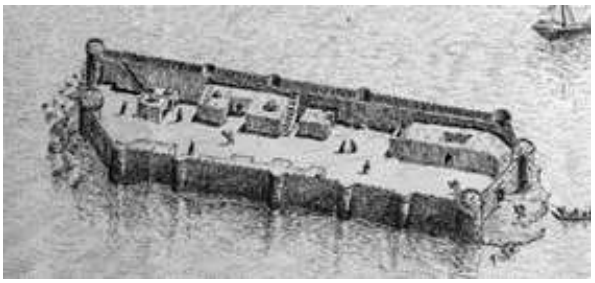
The following functions of tekiyehs are distinguished: they were used “as mosques”, “performed the function of a school where they taught reading and writing, taught religious sciences, studied the works of the authors of tasawwuf - such as “Risala Kushayri”, “Avarif ...”, “Masnavi”, “Mektubat Rabbani”, “al-Futuhatul-Mekkiya” and others; a place where “scholars and sheikhs gathered and held meetings on scientific and religious issues”; “gave shelter to wanderers and travelers heading to the Hajj, providing caravanserai services”, took on the functions of a hospital shelter - they served as “a place where the sick, disabled and suffering turned for help, where they were given shelter and cared for; performed “the functions of social assistance agencies, where the poor and disadvantaged received food”; served as “information centers between which communication was constantly maintained. "Dergah" (from Persian - door threshold) - tekies, which were the place of residence of sheikhs and dervishes (for example - Dergah Mavlyana). "Dergah sheriff" - to give more honor, they added "sheriff".



Pic.1 Khanagah Hir-Huseyn 11-th cencury.

There were also "asitans" - large and central tekies. For example, in the Mavlyaviya brotherhood, this was the name for tekies where "murids endured chile", small "tekies" were called "zawiya" (in Mavlyaviya, "chile-fasting, combined with solitude, is maintained for 1001 days. Dervishes who completed chile had the right to the title of "Dede").

Zawiya ("zawiya") - establishments where wandering dervishes and pilgrims received free shelter and food, they included: a hall for prayers and rites, hujras. Initially, zawiya (zawiya) was a room in a mosque or near it, where reading, writing and the Koran were taught. Later, in the 12th century, this was the name given to the dwelling of a Sufi sheikh, where he delivered sermons and taught murids. In some tariqas, zawiya meant "a central tekke with branches." It is believed that zawiyas were small "tekkees" that were located on the outskirts of cities and towns. In the 12th-14th centuries, zawiya received a special role, turning into a whole complex near the sheikh's home - this was the name given to a complex of buildings that included: a) the mausoleum of a saint, over which a dome was usually erected; b) a small mosque; c) living quarters of the sheikh and his family; d) rooms for reading the Koran and teaching murids; d) cells of the murids; e) a caravanserai, where travelers received shelter and food. A small cemetery was usually located next to the complex. Madrasahs arose in Eastern Iran and Bukhara in the late 9th - early 10th centuries. Before that time, theology was studied directly in mosques or in the home of a teacher. Madrasahs as a social institution and architectural structure have no parallels outside the Muslim world, since the first medieval universities in Europe did not have specially built buildings and dormitories for students, and higher schools at Christian monasteries, one can say, did not have specially designed buildings. Madrasah buildings were often attached to the sheikh's house. They were rectangular in plan, in the center of which was an inner courtyard, into which all the rooms opened. On the axes of the building there were two or four iwans, which also opened onto the courtyard. Most madrasahs have one or more domed rooms, which house a mosque and classrooms. In Azerbaijan, there were also ribats - a border fortress in the form of a rectangular structure with a fortified entrance in the center and round towers along the perimeter of the fortress walls. As the ribats lost their main purpose - border protection, they turned into Sufi abodes. This is noted by many researchers - over time, ribats began to play the role of centers of Islam, and turned into Sufi centers. This process can be traced in the North-Eastern Caucasus: thus, "the defensive complex of Darpush, which served as a border fortress, was transformed into a Sufi educational center by the 10th century." The main difference between the khanagah and the ribats is the appearance of a domed prayer hall and a portal entrance.



Pic.2 Khanagah Sabayil

Endowing the ribat with the functions of a spiritual abode led to a change in the content of the term and its use as a synonym for the term "khanagah", which, in turn, was sometimes used in the meaning of ribat. Thus, a ribat is a border fortress, later used as a Sufi abode with the spread of Islam. If the ribat as a fortress was built on the outskirts along the border, then the khanagah acted

as a religious Muslim object and had to be located near housing.

Most of the monasteries were located along caravan routes. The complexes included caravanserais, mosques and tombs.

It can be argued that all today's places of worship where Muslim saints are buried are former khanagahs. Thus, on the territory of modern Azerbaijan there were about 500 khanagahs.

The complex at the Maiden Tower (Baku) can also be attributed to the khanagah - a complex of monuments of the tomb of Sheikh Tahir. Of the buildings, the remains of a colonnade with pointed arches, a mosque-mekteb - the Molla Mirza Mosque (1056 AH/1645), with a round dome, 14 m long and nine m wide (belongs to the reign of Shah Abbas II), a cemetery have been preserved.

Pic. 3. Khanagah next to the Maiden Tower, Baku

Introductions to Sufi Cloisters and Their Social Functions

Sufism is an important social institution and a concept of a special mystical understanding of the universe. Throughout history, Sufi cloisters have served not only as spiritual centers but also as crucial societal hubs. They have provided education, guidance, and social services, influencing both individual spiritual growth and broader community development. In contemporary society, Sufi practices continue to hold cultural potential, offering frameworks for moral development and social cohesion.

Channeling and Esotericism in Modern Culture

In modern esotericism and New Age culture, practices of “information exchange” with imaginary superhuman agents and transpersonal forces are based on special psychophysical techniques, mainly so-called “channeling” or “contact.” The practice of channeling is, as British sociologist of religion Matthew Wood defines it, “a form of spirit possession in which the latter is regarded as a kind of religious teacher whose primary purpose is to convey to people important messages concerning the present state or future changes in the universe and our place in it.”

Channeling is akin to the Sufi pursuit of spiritual knowledge through contact with higher powers. For instance, spiritual knowledge can be received from entities like "Seth," an “energetic essence of the personality.” Today, one resorts to channeling, i.e., in the knowledge of God in oneself, for purely practical purposes such as fighting vices like gluttony, alcoholism, drug addiction, and depression. These vices are often referred to as low vibrations, in contrast to high energy vibrations identified with the higher power.

Sufi practices similarly aim to elevate one's spiritual state, guiding individuals away from these low vibrations and aligning them with higher spiritual realities. Through such practices, individuals achieve self-realization at a higher vibrational level. This process helps them overcome their weaknesses by connecting more profoundly with divine power.

Modern Period and Sufism after the USSR Collapse

After the collapse of the USSR, the situation in the Muslim republics became complex. With the beginning of "perestroika" and the attainment of independence in 1991, religion returned to the public sphere. By the early 1990s, various Sufi orders revived, including the Naqshbandiyya, Qadiriyya, and Mawlawiyya. The resurgence of these orders marked a revival of Islamic mysticism in the region.

In 2000, the Sulaymaniyya order gained prominence, and the neo-confederalist Nurdist movement, led by Fethullah Gulen, emerged as a significant force in 1992. Simultaneously, the Salafi movement began to spread in Azerbaijan during the early 1980s, with its religious center being the Abu Bakr Mosque (closed in 2008).

Representatives of intellectual-mystical Gnosticism (irfan) also survived in Azerbaijan. These included dervishes known as rosekhans, marsiyakhans, or maddakhs, who glorified the Prophet Muhammad and the Shiite imams. Over the past two centuries, 80 dervishes-rosekhans have come and gone in Northern Azerbaijan, leaving a profound legacy in religious and cultural life.

Sufism in Azerbaijan and Shiite Gnosticism

Sufi traditions remain deeply ingrained in Azerbaijani society, particularly among Shiite Sufi gnostics. These individuals, living in the villages of the Absheron peninsula such as Buzovna, Mashtaghi, Nardaran, Mardakyan, Kurdakhani, Zira, and Turkyan, continue to carry forward the legacy of Sufi spirituality. They are known for their exceptional vocal abilities and compositions of Azerbaijani mughams based on the poetry of Sufi classics like Imad-ad-Din Nasimi, Muhammad Fizuli, and the modern poet Aliaga Vahid.

In addition to mughams, dervishes-rosekhans also compose religious songs known as ilahi or madhiyyah, a type of eulogy in which they praise God, the Prophet Muhammad, and the twelve Shiite imams. Their performances take place at various religious events, including during the mourning month of Muharram, the fasting month of Ramadan, and significant holidays like Eid-al-Fitr and Eid-ul-Adha. These dervishes also participate in religious weddings, known as dervish weddings or "dervish toyu," where their musical sermons emphasize love for God, the homeland, and family.

Religious and Mugham Music in Azerbaijan

Dervish-rosekhans have become the creators and custodians of religious and mugham music in Azerbaijan. They are recognized as the founders of religious mystical musical art in the country. Their contributions extend beyond spiritual enrichment; they play an integral role in moral education and the strengthening of Azerbaijani statehood. Their performances at various religious and social events are not just artistic expressions but also serve as a means of imparting values and shaping societal morals.

The music they create, particularly religious songs, helps maintain the connection between the spiritual and the secular, and these traditions continue to have a powerful impact on Azerbaijani society. Their songs are rooted in the love of God and are instrumental in spreading messages of moral and spiritual guidance to the community.

Contemporary Dervish-Rosekhans in Azerbaijan

In contemporary Azerbaijan, several dervishes-rosekhans continue to preserve and advance the traditions of religious music. Among them is Haji-Mashadi Yashar Hasan-oglu Jahid Nardarani, born in 1956, a prominent Maddah dervish-rosekhan and the founder of the dervish group "Ahli Beit." This group also includes figures like Haji-Mashadi Agil and Haji Nazir, both residents of the Mardakyan and Turkyan villages.

A large number of dervishes-rosekhans still reside in Buzovna, continuing to practice under the mentorship of murshids like Husein Ibadallah, Kurdahan Ali Sukhbat, Dervish Haji Arz Allah, and Haji Safa from Mashtagh. These spiritual leaders have passed down their knowledge, ensuring that the legacy of Sufi music and mysticism thrives in modern Azerbaijan.

The work of these dervishes, especially in their musical sermons, emphasizes love for all beautiful things created by the Almighty, as well as respect for parents, family, and community. Their role in preserving Azerbaijan's religious traditions is crucial to the moral education of society and even in strengthening national identity.

Conclusion

Religion forms the bedrock of a people's spirituality, providing the core ethical norms and moral values that guide society. The fundamental tenets of religion—such as the injunctions against killing, stealing, and the call to help those in need—are universal principles shared across various traditions.

The territory of Azerbaijan, historically a center of Sufi orders, is home to numerous ancient khanagahs and Sufi feasts. These sacred sites, many of which are built on the graves of renowned scholars and theologians, serve as living monuments to the widespread influence of Sufism in Azerbaijan. Sufi orders that spread across the Islamic world often have Azerbaijani origins, and during the 11th and 12th centuries, many of these orders rose to prominence under the patronage of the Shirvanshahs. The khanagahs of Shirvan, which evolved into large religious and educational centers, were integral to the spiritual life of the state.

These khanagahs were not just places of worship but multifunctional complexes, often including mosques, prayer halls, mausoleums, meditation rooms, and quarters for students and sheikhs. Built according to a central courtyard design, the khanagahs also fulfilled other roles, such as serving military and logistical purposes, especially those located on the frontiers. The Khanagah on the Pirsagat River is one such example. The status of historic sites, such as the Palace of the Shirvanshahs,

is of particular importance, as they are connected to the Khalvatiyya order and hold significant cultural and spiritual value.

Since the collapse of the Soviet Union, there has been a revival of religious values throughout the post-Soviet space, particularly in Azerbaijan. Today, Sufi communities are re-emerging in regions such as Absheron, Masalli, Lenkoran, and Sabirabad. Sufism, as a religious and philosophical movement, remains influential across the Muslim world and is increasingly relevant as societies grapple with the moral and ethical challenges of the modern age.

At its core, Sufism is centered on moral purification and the cultivation of a “perfect man,” a person who transcends their negative traits and achieves spiritual enlightenment. The revival of Sufism holds great potential for enriching cultural and moral values within society. Its structured progression—from individual hermitage to the communal brotherhood of the tariqat—offers a pathway for personal and collective growth.

In contemporary times, a state-supported revival of Sufi orders could help address pressing social issues such as alcoholism, drug addiction, crime, and religious extremism. The creation of rehabilitation centers based on Sufi cloisters could provide a unique approach to these problems. Located in tranquil, remote areas, these centers could offer individuals a chance to heal and rehabilitate through spiritual practices while engaging in productive activities.

In addition to tackling substance abuse, Sufi centers could help address other societal challenges such as gambling addiction, chronic depression, loneliness, suicidal tendencies, and homelessness. By reviving the moral teachings of Sufism, Azerbaijan could enhance the spiritual fabric of its society and foster an environment that nurtures moral integrity and personal development.

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The role of Khinalig in the development of tourism and preservation of traditions in Northeastern Azerbaijan

Bahar Isagova

Western Caspian University, Baku, Azerbaijan

Abstract

Khinalug, an ancient village in northeastern Azerbaijan, represents a unique historical, cultural, and geographical site. Located at an altitude of 2,300 meters above sea level, it is one of the oldest settlements in the region, with an estimated age of over 5,000 years. The article examines archaeological and ethnographic data confirming Khinalig's historical significance, its architectural features, and rich cultural heritage, expressed through the preservation of language, customs, and traditions.

Particular attention is given to historical monuments such as mosques and tombs dating from the 9th to 12th centuries. The article also discusses the village’s economic development, based on agriculture and livestock farming, and its modern role as a tourism center. The study highlights Khinalig’s importance as a key site for understanding ethnic history and cultural interaction in the Caucasus.

Keywords: Khinalig, Guba district, Caucasus Mountains, Historical heritage, Mountain landscapes, Agriculture,

Introduction

Khinalig, a unique village nestled in the Guba region of northeastern Azerbaijan, stands as one of the most ancient and culturally rich settlements in the region. Surrounded by towering mountain ranges such as Shahdag, Tufan, Baba, and Qibla, Khinalig is located at an impressive altitude of 2,300 meters above sea level, making it one of the highest settlements in both Europe and Asia. This geographic isolation has contributed to the preservation of its rich cultural heritage, including its distinct language, traditions, and historical landmarks. Estimated to be around 5,000 years old, Khinalig has captured the attention of historians, archaeologists, and tourists alike, serving as a living testament to Azerbaijan’s deep historical roots. In recent years, the village has become a significant hub for tourism, attracting visitors who are drawn not only to its stunning natural landscapes but also to its vibrant cultural and religious heritage. This paper will explore the role of Khinalig in the development of tourism and the preservation of traditions in northeastern Azerbaijan, highlighting its contribution to both local and international cultural discourse.

Analyse

In the Guba region, which is one of the ancient and beautiful corners in the northeast of Azerbaijan, there is a wonderful village called Khinalig, an ancient place located between high mountain ranges such as Shahdag, Tufan mountain, Baba mountain, and Qibla mountain. Khinalig village is located in the eastern part of Gudyalchay, south of the Caucasian mountains. According to the preliminary research of historians, Khinalig village was built before our era. Based mainly on historical studies and narrations of the Khinalig ethnos and language, researchers believe that the history of the Khinalig village is about 5000 years old. When approaching this ancient place, one's attention is first attracted by the beautiful natural scenery, the strict majesty of the stepped and tiered buildings. Khinalig village, located 2300 meters above sea level, is one of the highest settlements in Europe and Asia. It is a mountain village located above Gudyalchay. This geographical position of the village is surrounded by harsh climatic conditions of Khinaly and beautiful mountain scenery. The village is surrounded by deep valleys, high mountains and dense forests. Khinalig is 50 km from the city of Guba, and 40 km from the city of Gusar. It is located at a distance. Until the end of the 60s of the last century, the villagers communicated with the neighboring villages and regions through mountain trails.

The neighboring regions with which the Khinalig people had the closest contacts were Gabala and Shamakhi, and they were only there during the summer months. However, horses and oxen were used as means of transport. Khinalig is a village known for its rich cultural heritage. In addition to protecting their language and traditions, people are active in keeping the national culture alive. The language used and spoken in Khinalig is close to the dialects of the Azerbaijani language in the mountainous Guba region. The people of Khinalig are religious Muslims and are a religious community. Khinalig is known for its rich cultural heritage. The people of Khinalig have their own special traditions, their own costumes and ceremonies, they live in houses built using special river stones with a special architectural structure. The residents of the village support each other and spend holidays and special days together. Community spirit is very strong in the village. In the village of Khinalig, Nowruz holiday is celebrated in a special and wide way. During this holiday, the local population shows its traditions, music, dance and national dishes. Along with the national sweets prepared during the holiday, national dishes such as "Govurma", "Doşameli plov", "shah plov" are prepared and presented with love. Khinalik cuisine is also known for its rich and delicious dishes and dishes prepared from local products (Tab 1).

Since the local population of the village is engaged in rural economy, this allows them to add flavors that meet the requirements of modern times to their cuisine. For the population in the village, cattle breeding, production of yogurt, milk, meat, and cultivation of grains and vegetables are the priority. Local residents take their products to local markets and to sell in neighboring regions. In 1934, the "Golden Star" agriculture was organized in the collective farm. The local population of the village had to give their cattle to the collective farm. The collective farm was replaced by the state farm economy in 1964.

Table1. Architectural Monuments of Khinalug: Categories, Significance, and Historical Data

Architectural monuments located in Khinalik					
Name	**Category**	**Importance of Type**	**The importance**	**History**	**Inventory number**
Khinalig village	Village	Architecture	World important	XVII-XIX centuries	9
Tower	Tower	Architecture	The country is important	1537 year	301
Abdullayev's residence	Residential house	Architecture	Locally important	XIX century	4614
Temple of the fire worshiper	Temple	Architecture	Locally important	XIX century	4647
Mosque	Mosque	Architecture	Locally important	XIX century	4648
Mosque	Mosque	Architecture	Locally important	XIX century	4650
Mosque	Mosque	Architecture	Locally important	XIX century	4651
Sheikh Shalbuz Mosque	Mosque	Architecture	Locally important	XIX century	4649

The economy of Khinalig village consists of agriculture, livestock and tourism. In recent years, Khinalig has become an important center in terms of tourism. Hotels and guesthouses in the village provide tourists with local food and cuisine and enable them to enjoy the natural beauty. Khinalig village is one of the attractive places for tourists to enjoy mountain hikes, nature walks, familiarization with local culture, rich history, and delicious food.

Khinalig has beautiful views surrounded by mountains. There are various historical monuments in Khinalig area. Ancient mosques and houses located in the center of the village reflect the historical architecture. These buildings are part of the historical and cultural heritage of Henna. The ancient mosque located in the center of the village

has religious and cultural importance for local residents. The history of Juma mosque, named after Abu Muslim, located on the highest point of Khinalig village, dates from the end of the 9th century to the beginning of the 10th century. According to the obtained information, Abu Muslim, the brother of Darbend judge Hisham, spread the religion of Islam and built mosques in all the villages of Dagestan and present-day northeastern Azerbaijan. Abu-Muslimjuma mosque was also built in that period. Although the roof of the mosque was previously made of earth, in 1989 it was covered with an iron covering. The mosque fell into disrepair as a result of torrential rains in 2001, and was substantially restored by the Ministry of Culture and Tourism of the Republic of Azerbaijan in 2012-2014 and regained its original appearance. There are many mosques and tombs like this in Khinalig. The history of "Pira generous tomb mosque" dates back to the 12th century. Although the fire worshiping temple was neglected after the adoption of Islam, Jomard restored the temple and built a mosque adjacent to it. It is located inside the building of Jomardin's grave. Currently, Pira-Comard tomb mosque is visited by the population.

"Khidir Nabi Tomb Mosque" is located in Yelgovan neighborhood and belongs to the 16th century. Khidir Nabi, as a cleric of the Islamic religion, held classes at home and was also engaged in medicine. He also used to extract teeth by treating with herbs that grow in Khinalig and means that have not reached us. After the death of Khidir Nabi, he was buried in a high place in the village, and as a sign of respect, his students built a tomb over his grave and visited it as a place of faith for many years. There is only the grave of Khidir Nabi inside the tomb. Later, a neighborhood mosque was built adjacent to the tomb, which is a place of faith. As it was years ago, the mosque is visited as a place of faith by the people. "Sheikh Shalbuz Tomb Mosque" dates back to the 17th century. In his time, Sheikh Shalbuz was a connoisseur of the Islamic language and had a perfect knowledge of Arabic and Persian languages, so he opened a madrasa and educated a large number of students. What distinguished the sheikh from other people was his foresight, and he read people's thoughts, wrote prayers and gave advice to help them and solve their problems. (Tab 2.)

"Israfil Baba Tomb Mosque" dating back to the 18th century is located in Chukhur neighborhood. Baba Israfil knew Islam, so he opened a madrasah at home and gave religious lessons. Baba Israfil, who knew oriental medicine, prepared medicine from plants growing in the Khinalig area and treated external wounds in people. Then they built a neighborhood mosque next to the tomb and named it "Israfil Baba Tomb Mosque".

Table2. Khinalig district

Row №	Name of the village	Who owns it. Treasury or entrepreneur	Number of holdings	Number of men and boys	Main occupation			Plot of land					Number of gardens			Number of others	Number of mills	Number of subjects	Number of runners	Tax-paying serfs and Rangers
					Cereal farming	Animal husbandry	Silk production	Suitable for cultivation	Unfit for cultivation	Let's mow	Pasture	Total	Fruit	Catch it	Qzqm (how many ruble					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Power	X	60	256	+	+	-	150	100	100	200	550	-	-	-	-	4	58	-	58
2	Jack	X	280	1011	+	+	-	500	500	60	-	1060	-	-	-	-	-	256	10	225
3	Gloves	X	170	545	+	+	-	600	200	200	200	1200	-	-	-	-	-	159	4	139
4	Hinalig	X	266	962	+	+	-	1000	2000	400	-	3400	-	-	-	-	-	261	1	239
5	Kaley God	X	41	133	+	+	-	100	150	50	100	400	-	-	-	-	-	40	-	37
6	Broken	X	421	1676	+	+	-	100	3000	300	-	3400	-	-	-	-	5	409	11	370
County total			1238	4583				2450	5950	1110	500	10010					9	1183	26	1068

1.The residents of Khinalig village were also engaged in cotton cultivation.

2.The inhabitants of the village of Giriz were also engaged in the production of various fabrics.

It belongs to the 18th century in "Mohuj Baba Tomb". Mohuj baba was the person who taught the lessons in the madrasa because he knew Arabic. Because he had biocurrent in his hand, he healed people and prepared and gave medicine from plants. After Mohuj Baba passed away, a tomb was built over his grave. The villagers used the grave as a shrine. The visit was mainly used by those with nervous diseases.

"Tomb of Baba Jabbar", which belongs to the end of the 17th century and the beginning of the 18th century, and is located in the neighborhood of Turba Chukhur. Baba Jabbar was said to have come from Turkey and was said to be a great saint. Baba Jabbar is said to have played a major role in teaching Islam and the Koran in Khinali, and he made a part of his house a madrasah and trained many mullahs and believers who became the chief imam of the Abu Muslim mosque. Baba Jabbar sent mullahs not only to Khinalig but also to nearby villages. Jabbar baba

had a special psychic ability, so he could read people's minds in advance. He used to influence patients who could be cured with the biocurrent in his hand and give advice. In the surrounding areas, there were people who came to seek healing after hearing that the grandfather was a serious saint. After Baba Jabbar's death, a tomb was built over his grave, and even though centuries have passed, people still visit it as a place of pilgrimage. Even though a large number of offerings were collected, Baba Jabbar's family took the amount they needed, and the rest helped the poor. Baba Jabbar was a poor and simple person at the same time. Around the tomb, Jabbar the relatives of the grandfather were buried.

"Ahmed Efendi tomb" located in the lower neighborhood cemetery is the last of all the tombs located in Khinalig according to its history. Ahmad Efendi lived at the end of the 19th century and the beginning of the 20th century. Ahmad Efendi, who knew Islam and had a perfect knowledge of the Arabic language, opened a madrasa and taught. People approached Ahmed Efendi for advice with certain problems. received.

"Ashağı Mahala" mosque is located in Gadakhe neighborhood. The mosque is a neighborhood mosque, and there are no graves around the tomb.

The history of "Ibrahim Khalil cell" dates back to the end of the 18th century and the beginning of the 19th century. The cell built on the left side of the mill, which was completely destroyed by a landslide in 2003, was rebuilt in a safe place using the monument's own stones. According to the legend, Ibrahim Khalil slept and dreamed that he would build a cell for him in the hollow of that slope and feed him with one date a day, reading the Qur'an and worshiping God. They say that Ibrahim Khalil, who did these things for 40 days, was accepted again in a dream by the angels and was given sainthood and released. After that, Ibrahim Khalil was able to foresee people's destiny and thus people accepted him as a great saint and accepted the cell as a sanctuary even after his death. Ibrahim Khalil, who regularly worshiped God in the cell, died in the cell. The location of his grave is unknown.

Looking at the specific structure of the village, it is clear that the old and new graves are densely located in the surrounding area. According to accurate information, it can be said that since ancient times, people who died in Khinalig were buried in closer places, and later, as the village grew, the Khinalig cemetery expanded to the suburbs. One of the most interesting facts is that the Khinalig calligraphers professionally prepared headstones from hard volcanic rocks and drew writing and painting patterns on them. Such ancient headstones can be seen in the 40-hectare cemetery. The investigated graves are chronologically related to VI-IV centuries BC. The graves in the east-west direction are built of river stones, and their upper parts are covered with flat rock slabs. There is a road to the monument.

More than 210 houses, including 160 historic residential houses, were built in Khinalig. Currently, more than 1905 people live in Khinalig. The number of members of the Khinalig ethnic group living in Azerbaijan has not been determined precisely. It can be said that in the current situation there are

approximately 250 people in the village of Vladimirovka (Gulistan) of the Guba region, about 120 people in the village of Karachay, 20 people in the settlement of Arabkhan, 130 people in the village of Dagli, 100 people in the village of Alekseyevka, 20 people in the village of Narimanabad, 15 people in the village of Igrig, Alibeygishlag 15 people in the village, 10 people in the village of Barli, 100 people in the village of Ashagi Atuc, about 100 people in the city of Guba, 30 people in the settlement of Timiryazev, 20 people in the settlement of Red, about 10 people in each of the villages of Agbil, Pirvahid, Khujbala, Digah, Nugadi, in the village of Vandam of Gabala district 60 people, 30 people in the city of Gabala, 20 people in the city of Baku, 30 people in the city of Sumgait live in families with khinaly. In addition, Russia's Moscow, Ufa, Surgut, Tumen, etc. About 50 families with hinalik live in cities like It should also be noted that in the 17th and 18th centuries, several Khinagli families migrated to Agdash region for farming and founded Khinagli village here. From the 19th century to the 40s of the last century, there were 9 mosques and 9 water mills in Khinalig. Currently, 6 out of 9 mosques are protected. Unfortunately, only one of the 9 water mills has survived.

There are 8 neighborhoods in Khinalig area.

1. Hill neighborhood,
2. Upper quarter (Gemk)
3. Yelgovan quarter
4. Malik neighborhood
5. Lower neighborhood (Help)
6. Gadakhe neighborhood
7. Chukhur neighborhood
8. Modern Deyrmanchay residential area.

After gaining independence, the people of Khinalig returned to their traditional way of life after the re-privatization of agriculture with poor economic development, consolidated in collective farms and state farms in Khinalig, which radically changed the way of life. In 2001, Khinalig was included in the list of "World-immovable historical and cultural monuments" and in 2007, it was included in the list of the World Monuments Fund.

Artifacts related to the initial settlement in Khinalig belong to the Early Bronze Age (end of IV millennium BC). With the support of the Ministry of Culture and Tourism of the Republic of Azerbaijan in 2010-2012, the leading researcher of the ANAS Institute of Archeology and Ethnography, t. u. f.d., I. As a result of archaeological excavations carried out by N. Aliyav in the area called "Zangar", an ancient settlement called "Zangar (Khinalig)" and a mound belonging to the Middle Bronze Age were discovered 500 m east of this settlement. A large number of bone and stone beads made of bronze, pendants, arrowheads, needles and various other decorative and household items from the mentioned monuments were discovered during archaeological excavations and handed over to the museum fund of the reserve. Exploratory archaeological research works were also carried out in monuments such as "Orta Tepe", "Barkshana", "Kıma Ligebirish", which are protected as historical monuments located in the territory of There is very little information about the inhabitants of these areas from the end of the Bronze Age to the period of Albanian rule. Khinalig people call their village "Ketish" and themselves "katdid". And with that, they show themselves to be the descendants of one of the 26 Albanian tribes. Many well-known writers about the history of Khinalig village mentioned the names of the tribes in their works and mentioned their culture and traditions in their works. In the 15th century, the place name Khinalig is found for the first time in Mahmud Al Khinalugi's manuscript entitled "Shirvan and Dagestan Events" (1457-1459). Mahmud took the name Khinaligli as a pseudonym. The first written source that used the name Khinalig also went down in history. The manuscript discovered and recorded by the Russian scientist Berge in 1860 was taken to St. Petersburg and translated into Russian. Mahmoud Al Khinalugi's work entitled "Shirvan and Dagestan Events" published in 1996 by the Dagestan National Academy of Sciences. Ziya Bunyadov named "ketish" as an Albanian tribe in his work. A.A. In Bakikhanov's book "Gulustani Irem", there is a record of the names of the "Ket" tribes, an Albanian tribe. "Ket" or "Ketish" is known to be associated with the words Ket-did - Ketish, which gives the meaning of our own. Musa Yagub wrote poems about the beauty of Khinalig, Rashid Behbudov, inspired by Khinalig, created works about the beauty of the village and its residents. Elmira Hajiyeva conducted ethnographic research on Khinalig and highlighted the traditions of the village, Nijat Mammadov (Aghdamski) wrote articles investigating the cultural heritage and folklore of the village. At the same time. Various articles, scientific studies and documentaries have been made about henna. Literary scholars and historians are constantly researching the lifestyle, culture, and traditions of the people who came from the past of the village. In addition to the Khinaligs, the Udins and the Griz also consider themselves the heirs of the Albanians. According to the legend, along with other peoples, the people of Khinalik also believe that they are descendants of Noah. Some Khinalig legends refer to Albanian personalities.

In the Soviet Union, the Khinalig people were listed as Azerbaijanis in the census, but in 1959, the Khinalig people were registered as a separate ethnic group. According to records in the sources, the

number of Khinalig residents was 1400 in 1926, 2500 in 1976, and 2101 in 1989. It was included in the administrative territory of Guba region in 1959. In 1926, the first elementary school was built, and the way of life of the village changed significantly. In 1967, a library was opened in the school. Later, the primary school expanded and continued to function as a secondary school in 7, 8 and 1973.

In 1956, he started working at the medical center in Khinalig. The first telephone line was built in Khinalyg in 1965, and the first post office was opened in 1967. It was from that year that all houses in Khinalig were supplied with electricity through a generator. A television transmission station was built in 1985. The road to Khinalya was built in 1968, passing through the villages of Guba-Alpan-Susay-Galakhudat. The length of this suspended road is 60 km. The construction of the new road connecting Khinalig to the center of Guba by passing through the village of Gachrash covers the years 1988-1994. The length of this road is 57 km. In 2006, this road was expanded and covered with asphalt.

Khinalig started to radically change his life after Azerbaijan gained independence. Poorly developed agriculture in collective farms and state farms was privatized again. The people of Khinalig could thus return to their traditional way of life.

In 2001, it was included in the list of "World Important Immovable Historical and Cultural Monuments", and in 2007, it was included in the World Monuments Fund.

In October 2006, the President of the Republic of Azerbaijan, Mr. Ilham Aliyev, paid an official visit to Khinalik. After the visit, a new post office and new telephone lines were built in Khinalig by the President's instructions. Stations of mobile operators began to operate. Khinalig village boarding secondary school was commissioned on September 15, 2007. As the occupation of the population of the village is cattle and sheep breeding, the residents have to move to the winter quarters and live there for several months. Thus, the children of those families are educated in Khinalig village boarding secondary school. All the concerns of the students are taken care of by the state. Students from neighboring villages also have the opportunity to study and stay in this school.

Equipment with special technical capabilities was installed in Khinalig ATES, and thus residents were given the opportunity to use high-speed Internet in Khinalig since 2015.

On June 15, 2020, as a result of the efforts of our state, it was included in UNESCO's Preliminary List of Material Heritage in Need of Urgent Protection as a historical monument.

In 2021, this rich heritage, distinguished by its mystery and uniqueness, was presented to the World Heritage Committee as a nomination document called "Cultural Landscape of Khinalig and Migration Route". The essence of the presented document is organizing the nomadic culture of Khinal.

On September 4, 2023, according to the Decree of the President of the Republic of Azerbaijan Mr. Ilham Aliyev, the State Historical-Cultural and Ethnographic Reserve "Xinalig and Migration Route" was established and tourism development was supported.

The decision to include Azerbaijan's nomination "Landscape of Infidelity and Migration Road" in the UNESCO World Heritage List was announced at the 45th session of UNESCO held in Ar-Rashid, Saudi Arabia on September 18, 2023.

"Khinalik Koch Yolu" was included in UNESCO's World Heritage List as the fourth cultural heritage site in Azerbaijan. Before that, it was included in the historical center of Sheki together with "Shirvanshahlar Palace", "Maiden's Castle", Gobustan Rock Art Cultural Landscape and Khan's Palace.

Conclusion

Khinalig stands as a remarkable example of how a community can preserve its ancient traditions while embracing modern development, particularly through tourism. Its high-altitude location, combined with its rich cultural and historical significance, has positioned Khinalig as a focal point for both domestic and international visitors. The village’s ongoing efforts to preserve its linguistic, cultural, and religious heritage, alongside its nomination as a UNESCO World Heritage Site, underscore its importance as a cultural and historical treasure. As Khinalig continues to evolve, it represents a unique intersection between past and present, where tourism serves not only as an economic driver but also as a vehicle for the preservation and celebration of the village’s millennia-old traditions. In conclusion, Khinalig’s role in the development of tourism and the safeguarding of Azerbaijani cultural heritage cannot be overstated, as it serves as a beacon of cultural resilience and identity in the modern world.

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Cultural diversity of the Caucasian peoples: in the works of photographer Dmitri Yermakov

Gunay Hasanova[1,*], and Aygun Gadirova[2]

[1] Historical Department, Western Caspian University, 31, Istiglaliyyat Street, Baku, Azerbaijan
[2] Historical Department, Mingachevir State University, 21 D. Aliyeva street, Mingachevir, Azerbaijan

Abstract

The Caucasus region, stretching from the Kuma-Manych Depression in the north to the northern part of Lake Urmia in the south, and from the Caspian Sea in the east to Lake Van in the west, is surrounded by high mountains and meadows. It is one of the most enchanting places in the world, known for its rich biodiversity and the cultural diversity of its peoples. Beliefs like Zoroastrianism, Christianity, Judaism, and Islam have left their marks on the cultures of these peoples. In the 19th century, the region's landscapes and cultural diversity attracted the attention of artists and photographers, who documented intriguing moments of the peoples' lives. This article examines the culture, traditions, and national costumes of the Caucasian peoples as depicted in Dmitri Yermakov's photographs. Even today, in the mountainous areas of the Caucasus with challenging roads, a small number of these peoples continue their daily lives. The preservation of their increasingly endangered cultures highlights the relevance of this topic. The study reveals that while the peoples of different regions of the Caucasus speak different languages and have distinct clothing and cuisines, they also share similar and common cultures. These shared characteristics are not necessarily linked to having the same language or religion, but rather to a shared historical fate. Dmitri Yermakov contributed to the science of ethnography by capturing images of Caucasian community members and their lifestyles. His works continue to serve as an invaluable resource for anyone interested in the Caucasus, both now and in the future.

Keywords: Caucasus; mountain peoples; Dmitri Yermakov; national costumes; photographic sources; ethnography; culture.

Introduction

The mountain peoples of the Caucasus have long been one of the key groups enriching the ethnic and cultural landscape of this region with their unique customs, traditions, and way of life. Studying the living conditions of these peoples, their relationships with the environment, and the unique cultures shaped by their geographical isolation is significant from historical, anthropological, and ethnographic perspectives. The breathtaking geography of the region—mountainous areas, rivers, deep ravines, and high plateaus—has limited interactions among the peoples residing there, resulting in each group developing its culture in a distinctive manner. Historically formed cultures manifest uniquely in material culture, particularly in their clothing, household items, traditional crafts, and rituals.

The Caucasus region has rarely experienced peace, either internally or externally. For centuries, it has served as a major route for military interventions between the continents of Asia and Europe. Each tribe passing through its mountains and valleys has partially washed away some aspects of local culture while leaving its mark in return. The diversity of these various peoples, settled in challenging environments rich with impenetrable forests and inaccessible heights, harmonizes with their natural surroundings.

Isolated from the outside world for seven to eight months of the year due to snowfall or flooding, these peoples have thus developed a unique, resilient, and intricate culture. The Caucasian scholar, academic, archaeologist, and ethnographer Nikolay Yakovlevich Marr noted that perceiving them (the peoples of the Caucasus) as barbaric, backward, or cave-dwelling individuals is fundamentally incorrect. There are no barbaric peoples in the Caucasus; no people exist without their own culture [1, 7].

The rich culture of the mountain peoples of the Caucasus has long been a focal point for both local and foreign researchers. Even in the 15th to 17th centuries, the interests of Italian, German, French, Turkish, and Russian travelers and diplomats were piqued by these peoples, who welcomed and bid farewell to them with great hospitality. The cultures they were perhaps not fully aware of have been preserved in the travelers' diaries, notes, and in

visual documentation such as paintings and photographs. The substantial documentation of these cultures became possible in the 19th century, during a time when the Russian Empire's interest in the Caucasus was growing, alongside the widespread popularity of ethnographic painting and the advent of photography. During this period, several cultural researchers, artists, and photographers ventured into the Caucasus, eternally imprinting these cultures into history. One of those who immortalized the culture of the Caucasian peoples in art was lithographer I.P. Beggrov. In 1822, with the support of the Society for the Encouragement of the Arts, he published the album titled "Народы, живущие между Каспийским и Черным морями" (The Peoples Living Between the Caspian and Black Seas) in St. Petersburg [2, 8].

The album depicts the various peoples living in different regions of the Caucasus. Azerbaijani scholar Emil Karimov, in his 2014 work titled "The National Costumes of the Caucasian Peoples in the Works of the Lithographer I.P. Beggrov," analyzed the traditional costumes of the Caucasian peoples based on Beggrov's photographs and published a catalog. In this catalog, the Caucasian peoples are sometimes noted by their ethnic names and at other times by the names of the villages or cities they inhabit. The illustrations of the Borchalans, Gazakhis, Qubalis, Gazakhis, Shamshadilis, Baku residents, Car Leksis, Khevsurs, Kakhetians, Georgians, Pəmbəklis, Chechens, Circassians, Kalmyks, and others not only depict their clothing, accessories, and weapons but also provide insight into the character of the people through their facial expressions [3, 7]. In the 1860s, the photographs taken by A.F. Ulskin and the photographers' society led by A.M. Mishon, particularly the images of Baku, one of the most beautiful cities in the Caucasus, and its surrounding areas, played a significant role in this documentation.

The main objective of this study is to examine the photographs of Dmitri Yermakov, which document the life and culture of the mountain peoples of the Caucasus in the late 19th and early 20th centuries. The photographer's works are significant both in terms of artistic craftsmanship and as ethnographic sources. Yermakov traveled to various regions of the Caucasus, capturing numerous photographs that reflect the lifestyles of the peoples living there. His works provide valuable visual materials for understanding not only the physical appearances of people from that era but also their customs, daily lives, and cultures.

D. Yermakov was consistently elected as a full and honorary member of several prestigious scientific institutions, including the Russian Archaeological Society (1881), the Society for the Promotion of Arts in Tbilisi (1897), and the Caucasus branch of the Imperial Moscow Archaeological Society (1907) [2, 5]. His membership in these esteemed scientific societies further contributed to the development of his creative work. The main part of his photographic collection is preserved in Tbilisi. In 1918, this valuable collection was acquired by Tbilisi University and the Georgian Society of History and Ethnography. A portion of it is kept in architectural-archaeological museums located in the Bukovo and Nijni Arkhyz settlements of the Karachay-Cherkess Republic. Additionally, photographs from the collection are exhibited in museums in Moscow, St. Petersburg, Krasnodar, and other cities [4, 5].

While researching this article, some of the photographs were accessed remotely via the internet, while others were fortunate enough to be viewed up close. The National Museum of Azerbaijan History, located in Baku, preserves Yermakov's photographs as valuable documentary sources. An album titled "Azerbaijan in the Photographs of Dmitri Yermakov," dedicated to the museum's centenary, serves as an invaluable resource for familiarizing oneself with these documents. Museums, by preserving these materials in their collections and archives, play a crucial role as bridges between past and future generations. They provide extensive opportunities to trace the people's collective memory, historical development, and evolution, particularly their traditional cultural practices [5, 129].

Unlike many of his contemporaries, D. Yermakov also photographed buildings of historical and architectural significance. Notably, he captured various angles of the ancient structures in Baku's Old City, including the famous Maiden Tower, the Palace of the Shirvanshahs and its components, the city walls of Baku, as well as historical fortresses in the villages of the Absheron Peninsula, the Bibi-Heybat Mosque, and others [6, 3]. Observing the condition of Baku a century ago, amid its ongoing changes and modernization, is truly fascinating.

The importance of this research lies in the uniqueness of Yermakov's photographs in documenting the culture of the Caucasian peoples. His works record numerous customs and lifestyles that have been forgotten or altered due to the modernization processes of the 20th century. These photographs serve as significant sources from both historical and cultural perspectives, allowing for the examination of the evolution of the culture of the mountain peoples of the Caucasus in the early 20th century.

In conclusion, this article will highlight both Yermakov's contributions to Caucasian ethnography and the importance of his work in the contemporary

study of these cultures. The main thesis of this research is to illuminate the cultural heritage and traditional clothing of the Caucasian peoples based on the photographs taken by Dmitri Yermakov. To achieve this goal, the photographs will be analyzed, and their historical context and visual language will be explored.

Methodology

This article primarily focuses on historical-ethnographic analysis. The works of D. Yermakov depict the lifestyle, clothing, adornments, weapons, decorative tools, carts, and household items of the Caucasian peoples from the late 19th to the early 20th centuries. Considering that photography is not always a reliable source, there arose a necessity to refer to historical artifacts and documents during the research. Instances of misattribution of locations and individuals, as well as the tendency of photographers to emphasize certain subjects while relegating others to secondary importance, were frequently encountered.

The article investigates the characteristic features, worldview, customs, and beliefs of these peoples. This analysis was conducted through a comparative approach, drawing from articles published by the Russian journalist-ethnographer Vasili Veličkon in the newspaper "Caucasus," as well as works by ethnographers Emil Karimov, Fazail Valiyev, and art historian Amina Malikova, alongside information from James Forsyth's book "Caucasus," among others. The works of photographers and artists who lived during the examined period were also included in this analysis, featuring notable figures such as Grigory Grigoryevich Gagarin, Karl Petrovich Beggrov, and Mirza Qadim Iravani.

Recently, museums and collectors have begun to showcase their archival materials online, which has led to instances of manipulation and distortion of these materials through various programs by some individuals. Researcher A. Maksudov has uncovered inaccuracies in several photographs concerning the Nogai people. One of the images he studied is a well-known and controversial depiction attributed to the Nogais in various sources. This is the photograph titled "Two Young Nogai Women. Nogais, Second Half of the 19th Century," presented in the online collection of the Kunstkamera museum. The author notes that the headgear, dresses, and hairstyles of the women depicted do not belong to the Nogais, but rather to the Kazakhs. Furthermore, Maksudov mentioned that disputes regarding another photograph he studied were resolved at the "Dmitri Yermakov's Illuminating Art" exhibition, jointly organized by the "ROSPHOTO" museum and the Russian Museum of Ethnography. It was revealed that the photograph known as "Nogai" actually depicted a "Kazakh brigade in Russian service." Based on this finding, Maksudov affirmed the accuracy of his research, declaring that the individual in question was a Kazakh master, not Nogai or Kalmyk [7].

During the research for this article, the depictions in the photographs were visually compared with the customs, proverbs, legends, and narratives of the people. These correlations enhance the reliability of the photographs. Additionally, traces of 19th-century Russian colonial policy can be discerned in the works of D. Yermakov. When depicting the Christian population, particularly the Georgians and Armenians, he portrayed them in richer visual contexts, while the Tatars (Turks) were depicted in a simpler lifestyle. In the works of the well-known artist Mirza Qadim Iravani, Azerbaijani women and gentlemen are represented in lavish attire and opulent homes. The "Portrait of Mah Talat" stored in the State Art Museum of Georgia and the "Portrait of a Young Woman" preserved in the National Museum of Azerbaijani Art serve as exemplary depictions of the national costumes and traditions of Azerbaijanis living in Tbilisi and Yerevan.

Accessing and utilizing shared images from the collections of ROSPHOTO, the Kunstkamera, the National Museum of Azerbaijan History, and the National Museum of Azerbaijani Art through the internet has enhanced the quality of this research.

Dmitri Yermakov's activity

Dmitri Ivanovich Yermakov is recognized as a photographer, ethnographer, and cartographer, notably leaving his mark by documenting the visual representations of the Caucasus region in his photographs during the late 19th and early 20th centuries. Born in 1845 in Tbilisi, Georgia, he spent much of his life there. In the 1860s, he opened a photography studio called "Rembrandt" and collaborated with prominent photographers of the time, such as Henri Haupt, I. Aleksandrovsky, and Aleksandr Roinašvili. His work earned him membership in the Société Française de Photographie (SFP), and he held exhibitions of his works in Paris in 1874 and in Moscow in 1878.

Yermakov not only traveled across the Caucasus but also visited Turkey and Iran, capturing intriguing photographs. His talent attracted the attention of the Qajar ruler Ahmad Shah, and in 1910, he became the official photographer of the Shah. Yermakov passed away in 1916 at the age of 71 in Tbilisi and was buried in the Kuki cemetery [8, 1].

With a profound interest in photography and ethnography, Yermakov traveled extensively throughout various regions of the Caucasus, studying and documenting the customs and lifestyles

of the peoples living there. His work extended beyond photography; he also collected ethnographic materials and investigated the local characteristics of Caucasian peoples, presenting his research in various publications. In 1872, he participated in an archaeological expedition, further exploring the ancient layers of these peoples' histories [9, 1]. His works are recognized as a vast archival material reflecting the ethnic diversity of the Caucasus, particularly the lifestyles of mountain peoples. These photographs serve as visual testimonies of Yermakov's desire to convey the cultural heritage of the Caucasus to future generations.

Yermakov's works possess both artistic and documentary value. While maintaining aesthetic composition in his photographs, he also preserved their documentary essence. His images beautifully depict the relationship between nature and humanity, showcasing his professional selection of subjects that are both artistically rich and strongly documentary. Yermakov's focus extended not only to individual people but also to their environments, the objects they used, their clothing, and their overall cultural lifestyles.

An example of his work is a photograph taken in the 1870s-90s in the village of Biberdov, Kuban, depicting Abazin women in traditional attire.

Geographical and ethnographic richness of the Caucasus

The Caucasus is characterized as one of the largest and most ethnographically diverse regions in the Near East. Prior to the 19th century, this area was historically and ethnographically integrated. However, following the expansion and occupation by the Russian Empire, it was officially divided into two parts in geographic documents: North and South Caucasus. Today, South Caucasus is home to three independent states—Azerbaijan, Georgia, and Armenia. North Caucasus, on the other hand, is governed as part of the Russian Federation and is sometimes simply marked as "Russia" on maps.

Despite this division, the region stands out for its ethnic diversity, hosting a multitude of peoples. North of the Terek River are the autonomous republics of North Ossetia, Kabardino-Balkaria, Karachay-Cherkessia, and Adygea, which are part of the Russian Federation. To the east of the Terek River lie Chechnya and Ingushetia, while Dagestan is recognized as a homeland for various ethnic groups in the south. The largest ethnic groups in Dagestan include the Avars, Dargins, Kumyks, and Lezgins. To the north of Dagestan, in the steppe plains extending to the Volga Delta, reside the Kalmyks. In the northwestern part of North Caucasus, in the cities of Stavropol, Krasnodar, and Rostov, primarily Russians and Ukrainians, who were settled in this region since the 16th century, dominate [10, 34].

During the late 19th and early 20th centuries, the Russian journalist and historian Vasili Velichko provided fascinating and fact-based information about the peoples of the Caucasus. As the editor of the newspaper "Caucasus," published in Tbilisi, he closely studied the historical past of the region, traveling extensively through Transcaucasia to learn about the local peoples' customs, lifestyles, and living conditions, and published historical-ethnographic articles on these subjects.

Vasili Velichko categorized the ethnic groups of Transcaucasia into three main categories: Ancient Kartvelian Tribes: In the western part of Transcaucasia, he identified the Kartvelian tribes, including Georgians, Imeretians, Gurials, Megrelians, Lazs, Ajarans, and Kobuletians, who had settled in the region since ancient times; Turkic, Mongolic, and Iranian Tribes: In Eastern Transcaucasia, he documented tribes of Turkic, Mongolic, and Iranian origins, alongside the ethnically disputed Armenian people, conducting extensive historical and ethnographic research on these groups [11, 10].

Displacement and Resettlement: Over time, various nations have been relocated to the Caucasus due to wars or efforts to create a certain "improvement" in the region. Under the proposal of Aleksey Petrovich Yermolov, who was the commander of the Caucasus, a German colony was established in Georgia and Azerbaijan to enhance agricultural knowledge among the local population. However, the Germans, taking advantage of the conditions provided by the state, focused solely on their own prosperity and failed to contribute positively to the local populace. As Velichko noted, “they produced only servants for themselves, freed from duties and obligations.” [11, 20].

Velichko also linked the cultural stagnation of the Transcaucasia region to climatic conditions and the prevalence of diseases like malaria. He rejected the notion that the majority of the population was inherently nomadic, criticizing those who proposed this view as “incompetent observers.” According to Velichko, nomadism was not a natural lifestyle; rather, it arose from the necessity of migrating to summer pastures due to the difficulties of grazing livestock in malarial valleys and plains during the warm months [11, 11].

This tradition of nomadism continues to exist in some regions today, such as the village of Xınalıq in Azerbaijan. Xınalıq is a significant location situated on an ancient migration route, preserving this cultural heritage. On September 18, 2023, UNESCO recognized "Xınalıq and the Migration Route Cultural Landscape" as part of the World Heritage

List [12]. Each year, the residents of Xınalıq traverse approximately two hundred kilometers between their summer and winter pastures, maintaining their unique cultural heritage along this migratory path. Carpet weaving stands out as one of the most valued examples of craftsmanship among the people of Xınalıq. This rich culture is also reflected in the photographic collections of Dmitri Yermakov. Among the photographs taken by Yermakov are materials depicting the women and men of Khinalig village, playing a crucial role in the visual documentation of the region's culture.

The peoples of the Caucasus each differ in their ethnic, religious, and linguistic characteristics. However, geographical proximity and living conditions have led to the emergence of certain common elements within their cultures. Although the languages of many mountain peoples belong to different language families (Caucasian, Turkic, and Iranian), interactions among these groups have resulted in some similarities. For instance, the rich phonetic systems and grammatical differences present in many Caucasian languages have also influenced their cultures. The impact of language on culture is particularly evident in specific expressions and dialects used during holidays and ceremonies. The Greek geographer Strabo noted in his writings that the population of ancient Albania in the southern Caucasus spoke twenty-six different languages, which made communication challenging among them [13, 5]. Historian-journalist V. Velichko stated that this region, which included the Yelizavetpol governorate as well as parts of Tbilisi and Dagestan (referred to as Caucasian Albania), was home to peoples who accepted Christianity from the Armenians but were not of Armenian origin [11, 72].

The cultural diversity reflected in Yermakov's photographs is clearly visible in the clothing, customs, and lifestyles of these peoples. Each nation's clothing styles are influenced by their climatic conditions, way of life, and social status. For example, the traditional clothing of the Avars has been adapted to the harsher and more severe climate, featuring multiple layers and intricate designs, which suits their mountainous living conditions. In contrast, the clothing of the Lezgins is made from lighter materials, reflecting their existence in a milder climate. The sometimes completely different and sometimes similar cultural elements of these peoples-such as the similarities in the ornaments used by both the Avars and Lezgins—are clearly depicted in Yermakov's photographs. Through these images, we observe both the cultural diversity of these nations and the common elements influenced by the geography of the Caucasus. Detailed information regarding the techniques of garment making, materials, and decorative features will be presented in the following section.

The traditional clothing culture of the peoples of the Caucasus

Dmitri Yermakov's photographs extensively document the traditional clothing and domestic culture of the mountain peoples of the Caucasus. Ethnographer Fazail Valiyev has commented on the similarities in the clothing samples of the Caucasian peoples in his research. According to him, in Azerbaijan's Absheron ethnographic region, the garment referred to as "don" is widely known by the same name and sometimes called "beşmet" and "zepun" among the peoples of Eastern Europe, the Volga region, the Caucasus, South Caucasus, Siberian Tatars, and Central Asian nations [14, 62; 15, 154]. Yermakov's photographs feature numerous depictions of both male and female national costumes. These images provide a convenient means for studying their ethnography. Art scholar Mammadagha Terlanov noted that clothing can reveal not only an individual’s taste and worldview but also the material and spiritual culture, economic status, and economic-cultural, ethnic, and trade relations of an entire nation. The history of clothing is entirely linked to the political, economic, and cultural history of the people [16, 35].

The creative abilities and aesthetic tastes of peoples, including national material values represented by clothing, are considered valuable ethnographic treasures. Art scholar S.S. Dunyamalieva rightly states that “the Azerbaijani people, who possess refined taste, a high artistic sensibility, and a dynamic lifestyle, paid special attention to the comfort, beauty, and quality of the materials used in their clothing, the practicality and functionality of clothing elements, as well as the hygiene of their garments. It is precisely due to this attention and high artistic thinking that Azerbaijani clothing art has risen to the level of clothing aesthetics, captivating everyone throughout history with its beauty, color choices, and harmony.” [17, 150].

Yermakov's photographs taken in the Caucasus allow us to observe that each nation in this region has drawn from its unique cultural heritage, resulting in distinctive and differentiated clothing styles. In the 19th century, the clothing of the mountain peoples served as significant cultural symbols indicating their social status, gender, and sometimes even age. In Yermakov's photos, the traditional garments of these peoples included ornate headpieces, cloaks, kaftans, and armored garments. These outfits were important not only aesthetically but also functionally, as the harsh climate of the mountainous regions made such clothing necessary.

In the early 19th and 20th centuries, the traditional male clothing of Azerbaijan exhibited characteristics typical of the entire Caucasus region in terms of design and sewing techniques, but it was distinguished by local features of relatively minor significance [18, 69]. An essential and important element of Caucasian men's clothing is the "vaznə," tailored to adapt to outdoor conditions and designed with pockets for holding a gun. On the opposite side of the belt, there was a designated place for hanging a sword or dagger, and later, a pistol.

A Caucasian man could not go bareheaded; this was an important symbol in their cultural identity and understanding of masculinity. The cap was considered a symbol of honor and dignity, which further emphasized its significance in culture. There are many proverbs that have emerged in this context among the people, such as: “A cap is not for warmth or cold!” and “Put your cap in front of you and think carefully!” These sayings help to better understand the social and cultural context of clothing, while also highlighting the role of headwear in masculine identity.

In the clothing style of the mountain peoples, bright colors and patterns often predominated, reflecting the richness of their culture and the value they placed on handicrafts. Men are depicted in photographs wearing long coats, belts with daggers, and armored headgear. These garments were not only used in everyday life but also represented clothing for war and defense purposes. D. Yermakov visited places such as Lankaran, Yelizavetpol (now Ganja – edit. A.G.), Baku, Nakhchivan, and others [4]. He captured images of women and men from these regions, which are currently preserved at the National Museum of Azerbaijan History. Researcher Musa Guliyev has studied the photographs taken by Yermakov in Nakhchivan. These photo-documents are now preserved under the title "Nakhchivan Women" at the National Museum of Azerbaijan History.

When these photographs are examined, information about both the clothing and adornments is collected. Traditional women's adornments, which are an integral part of clothing culture, reflect the ancient traditions, worldview, and changes occurring in the socio-economic life of the people. Adornments are also a valuable source for studying the overall history and ethnic identity of the population. Since they reflect national identity more vividly, they provide extensive material for exploring people's aesthetic views and the history of clothing culture [19, 3].

Customs and traditions of the peoples of the Caucasus

The customs and traditions of the mountain peoples reflect their ethnic identities and religious belief systems. In Yermakov's photographs, we can see how these nations present their culture during special days, weddings, funerals, religious holidays, and folk celebrations. In particular, D. Yermakov paid special attention to wedding ceremonies. The traditional garments worn during weddings, the organization of the festivities, and the facial expressions of the participants captured in the photos draw attention. Wedding ceremonies are considered one of the most significant social events among the people and often lasted for several days. Among Yermakov's works, the photographs of newlyweds, as well as those in wedding attire and in the bridal carriage, provide compelling evidence for studying the marriage customs of these peoples.

V. Velichko, describing the character of the peoples, notes that while Azerbaijanis have deep respect, they feel pity for the residents of Dagestan. He presents the true nobility of Dagestanis through a widely known proverb in their language. Although they frown upon ambushing and killing, the expression they often use—“one must look into the enemy's eyes”—indicates that the dignity of their people does not raise doubts [11, 225]. He identifies the Georgians with the Russians “in terms of their spirituality and the high level of their culture,” viewing them as the “main state people of the region” and describing them as “a small heroic nation for the sake of religion and uniqueness.” [11, 34].

Azerbaijanis, undoubtedly noble by blood, are naturally kind, brave, courageous, and noble, and they possess the capacity for intellectual and spiritual development [11, 191]. Islam, one of the cultural foundations of this people, undoubtedly enhances these qualities [11, 5]. Azerbaijanis are referred to as Tatars, but although Tatars are associated with the Mongolian tribe, this is completely incorrect. If there is Tatar blood in Azerbaijanis, it is solely the result of Mongolian invasions during the periods of Batı, Manqu, and Hulagu Khan. Azerbaijanis—Turks and Turanians—are, by their primary origins, blood brothers of the ancient Oghuz, Seljuks, and modern Turks [11, 191].

James Forthys, the head of the Department of Russian Language at the University of Aberdeen, has dedicated his book "The History of the Caucasus" to the region's history from ancient times to the near present. In his book, Forthys addresses the origins and ethnography of the Caucasian peoples, attempting to view them not through the lens of colonialism but with an outsider's perspective. While analyzing the peoples living there, he strives to uncover their characters. He notes

that the least submissive people in the Caucasus are the Chechens, who live in the forested hills and mountains of the Terek Valley and Vladikavkaz. This people, who refer to themselves as "nohcho," along with the Ingush, were distinguished in the early 19th century by the almost complete absence of feudalism among the Caucasian peoples, lacking their own feudal lords or khans [10, 316].

In the presented photograph, a Chechen woman is depicted wearing a mourning black scarf, with a cartridge belt across her shoulder and holding a flower as a symbol of peace. Taken in the 1880s, this photo captures the fighting spirit of the Chechen people, highlighting the juxtaposition of the women's mourning attire with their readiness for battle, while the flower in her hand symbolizes peace and love, reflecting the photographer's hidden affection for this nation.

One of the most famous and unique customs of the Caucasus is the hospitality of its peoples. Regardless of their identity, anyone who sets foot in a home—whether a representative of a different religion or even an enemy—will be received with great respect and honor, and seated in the most respectable place in the house. A guest cannot leave without sitting at the table and sharing a piece of bread, as this is considered the greatest disrespect to the host. One night, if a homeowner is knocked on the door by an unknown person, they will say, “A guest is a servant of God!” and welcome them inside, offering food and a place to sleep, inquiring about their identity only in the morning. Asad bey, who lived in exile in Berlin and originally from Baku, extensively discussed the customs, hospitality, and feats of bravery of the Caucasian peoples in his 1930 novel titled "The Twelve Secrets of the Caucasus." In the introduction to the novel, he artistically expresses the hospitality of the Caucasians with the following intriguing sentence: “The enchanting and legendary land of the Caucasus continues to attract attention as always. Its untouched peaks are filled with mysteries, unknown tribes inhabit the cliffs and valleys, and the ancient noble lineage is visible in all its splendor. Europeans who have dared to tread its peaks still do not know whether the brave sons of these mountains will greet them with hospitality or with bullets.” [1, 9].

Conclusions and discussion

The ethnographic field materials we have gathered on the history and ethnography of the Caucasian peoples, along with a historical-comparative analysis of the existing literature, reveal that Dmitri Yermakov's photographic works are valuable documents reflecting the life and culture of the mountain peoples of the Caucasus in the late 19th and early 20th centuries. The parallels across the Caucasus observed in the photographs taken through his lens are significant. The reason for the abundance of such similarities is evident in the historically established and developed cultural and economic relations and interactions among the peoples of the Caucasus.

From the results of this research, it can be concluded that these interactions have contributed to the development of multicultural values in the Caucasus. Despite ethnic identity and religious differences, the continuation of common rituals and traditions among communities is evident. These shared cultural elements can be grouped as follows:

1) Dances: Avar dance, "Sarı gəlin," "Shalaxo," "Papaq," and Lazi dances are among the most widespread examples. As the name suggests, the Avar dance belongs to the Avar people, yet it is very popular among the peoples of the Caucasus and has never caused discontent when performed by other nations. The Lazi dance and Georgian dance can also be cited as examples. However, this harmony is not observed with the "Sarı gəlin" dance, as debates among Armenians regarding the Turkish cultural origins of the song and dance have been ongoing.

2) Foods: Qutab, Dolma, Lavash, Xəngəl, Ləvəngi, and others are beloved examples of a common cuisine among the Caucasian peoples. Nonetheless, when seeking Xəngəl, one will primarily turn to Georgian cuisine; for Dolma, to Turkish cuisine; for Xərək bread, to Laz cuisine; and for Ləvəngi, to Talysh cuisine. This indicates that while the majority of the region's population appreciates the delicious dishes from each other’s cultures, they also know precisely which local community they belong to, respect that, and therefore never engage in disputes.

3) National Holidays: Examples include Novruz Bayramı, Ramadan Bayramı, Qurban Bayramı, and Easter. There are regions in the Caucasus where some communities are in the minority while others are in the majority. For instance, Azerbaijani Turks are in the majority in the Republic of Azerbaijan but are a minority in regions such as Borçalı, Qarayazı, and Marneuli in the Republic of Georgia. However, they do not face any oppression during the celebration of Novruz or religious holidays like Qurban and Ramadan; on the contrary, they sometimes celebrate these events together with neighboring communities. Similarly, the national holidays celebrated by the Jewish community living in Quba are met with interest by others.

4) Religious Tolerance and Tolerance: One of the main characteristics of the Caucasian peoples is religious tolerance. Instances of religious intolerance are rarely found even in communities where different religions coexist. However, the

situation changed somewhat after the settlement of Christian Armenians in the region in the early 19th century.

In conclusion, Dmitri Yermakov's works are valuable sources illuminating these multicultural values and the shared culture of the peoples. Through these photographs, we gain a deeper understanding of the history, traditions, and ethnic identities of the Caucasian peoples. At the same time, the cultural and social harmony that once existed among the peoples serves as a valuable example today.

Conclusion

The rich cultural heritage and ethnic diversity of the Caucasian peoples have been a highlight not only for this region but for the entire world culture over the centuries. One of the most valuable sources reflecting this culture is Dmitri Yermakov's photographic works. His photos are not just the creations of an artist; they are also regarded as evidence and relics that present the lives, traditions, and daily lives of the mountain peoples of the Caucasus throughout various historical periods.

This research demonstrates that Yermakov's photographs have played a significant role in preserving the cultural heritage of the Caucasian peoples and transmitting it to future generations. Through these photographs, elements ranging from the dances and national dishes to religious rituals and everyday life remain valuable ethnographic and historical sources in collective memory. The shared values and avenues of interaction among the peoples have created harmony in their culture, reflecting the deep roots of long-standing traditions of coexistence in the region.

Alongside Yermakov's works, historical sources and materials preserved by museums provide us with more accurate and comprehensive information about the cultural heritage of the Caucasus. This rich heritage will continue to serve as a great legacy for future generations who will explore the history, solidarity, and unique culture of the region’s peoples.

The influence of cultures on each other and the coexistence of peoples in a multicultural environment constitute the unique value of the Caucasus region. This harmony and diversity are excellent examples of intercultural relations and mutual influence among peoples that have respected each other since ancient times.

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Alinja mountain fortress: a military-strategic and ideological center of medieval Azerbaijan

Gunel Rahimli[1]

[1] *Western Caspian University, Social and Political Sciences, History Department, Baku/Azerbaijan*

Abstract

This article examines the significance of Alinja Fortress, one of the most important defensive positions in medieval Azerbaijan, as both a military-strategic and ideological center during that period. Due to its geographical location and robust defense systems, the fortress played a crucial role not only in regional power struggles but also in inter-imperial conflicts. As a mountain fortress difficult to access, Alinja held great importance in the defense strategies of medieval Azerbaijani states. During the rule of the Atabegs, Ilkhanids, Timurids, Karakoyunlu, and Aggoyunlus and Safavids. Being primarily defensive in nature, the fortress gained further importance during periods of foreign invasions and internal conflicts. Consequently, historical sources from that period contain references to the fortress. In historical sources, Alinja Fortress is depicted not only as a center of military conflict and defense but also as a symbol of spiritual and ideological resistance for the local populations loyal to it. The fortress is particularly remembered as a center of heretical movements and Hurufism in the region during the 13th and 14th centuries. During this period, Alinja was elevated to a near-mythical status among the people, serving as a focal point of ideological struggle and playing a significant role in shaping Azerbaijani national identity.

Keywords*:* Alinja Fortress, Medieval Period, Defensive Structure, Hurufism, Ideological Center

Introduction

Natural conditions and the geographical positioning of states have long played a significant role in shaping the destinies of nations and influencing political events throughout history. In many instances, geographical factors have directly impacted the outcomes of wars and internal political struggles, altering the trajectory of historical developments. For instance, during the Second World War, the vast terrain and harsh climate of Russia were key factors in the Soviet Union's successful resistance against Nazi Germany, contributing to a distinct shift in the course of history. Numerous examples of such pivotal moments can be identified throughout history.

The geographical location of Azerbaijan, particularly its mountainous regions, has been a critical factor in shaping the country's political and military history. The mountain fortresses of Azerbaijan have played a decisive role in defense strategies, with the Alinja Mountain Fortress being particularly noteworthy. This fortress was not only a strategic military defense hub but also held political and ideological significance. Its presence and location were crucial in medieval Azerbaijan, attracting both local powers and foreign forces. In this article, we will reassess the role of the Alinja Fortress using medieval sources, archaeological findings, and modern historiographical research.

The literature and sources employed in the study have been carefully compared, and the methods of historical analysis, comparison, and critical evaluation have been utilized. Our objective is to provide a comprehensive analysis of Alinja Mountain Fortress's role in Azerbaijan's history, emphasizing its significance as a military-strategic and ideological center.

Results

Alinja Fortress served as a crucial defensive position due to its geographical location in the mountainous terrain. Its robust defense systems enabled it to withstand assaults and play a pivotal role in regional power dynamics during the reigns of various dynasties, including the Atabegs, Ilkhanids, Timurids, Karakoyunlu, Aggoyunlu, and Safavids. The fortress was a central battleground in numerous conflicts, underscoring its strategic importance in military strategies.

Beyond its military function, Alinja Fortress emerged as a symbol of spiritual and ideological resistance. It became a focal point for heretical movements, particularly Hurufism, during the 13th and 14th centuries. This ideological significance contributed to its near-mythical status among local populations, shaping Azerbaijani national identity and serving as a rallying point for communal beliefs and resistance against external pressures.

Historical sources from the medieval period frequently reference Alinja Fortress, highlighting its role in both military confrontations and ideological struggles. The integration of archaeological findings further enriches our understanding of the fortress's historical context, revealing material culture that reflects its strategic and ideological importance.

The legacy of Alinja Fortress continues to

resonate in Azerbaijani national consciousness. Its representation in historical narratives and cultural memory underscores its role not just as a military stronghold, but as a symbol of resilience and identity for the Azerbaijani people.

Discussion

Alinja Castle, one of Azerbaijan’s most significant medieval defense structures, was situated atop Alinja Mountain in the Nakhchivan region, from which it derived its name. While the exact date of its construction remains uncertain, some scholars suggest that the castle was built during the early Middle Ages and underwent restoration in the 5th century [1, p.351]. The Spanish traveler Gonzalez de Clavijo, who visited Azerbaijan during the Timurid rule, described Alinja Fortress as being positioned on a hill north of the Araz River, surrounded by walls, with large gardens inside and grain fields outside the fortress [2, p.85; 3, p.45]. Additionally, Ibn Arabshah’s work *Ajâibu'l-Makdûr*, a primary source on Timur’s campaigns, notes that this mountain fortress stood higher than the clouds [4, p.106]. Positioned in one of the highest locations in the region, Alinja Castle became a symbol of resilience and strength.

The name of Alinja Castle appears more frequently during the reign of the Atabeys (Eldeguzid dynasty) (1136-1225). Located near Nakhchivan, a key city of the Eldeguzid state, the fortress served as a principal military-strategic center and housed the state’s treasury. Many of the palaces and auxiliary structures within Alinja were constructed by order of the Atabeys of Azerbaijan. During this period, the fortress was fortified to endure long-term military defenses and overcome economic challenges. From that time onward, Alinja Castle became the site of fierce battles and prolonged struggles, standing as a testament to its military and historical importance.

During the rule of the Hulakus (Ilkhanis) over Azerbaijan (1256-1357), Alinja Fortress retained its military strategic significance. Under the subsequent Jalair dynasty, the fortress gained renown as a defensive stronghold capable of withstanding the advances of Timur. In 1387, Amir Timur, the renowned Turkic ruler, laid siege to the fortress during his first campaign into Azerbaijan. However, he was unable to capture it. A primary reason for Timur’s siege was that the influential emirs of the Jalair dynasty had taken refuge there, and the state treasury was housed within the fortress. Like their predecessors, including the Eldeguzids, the Jalairs recognized the fortress’s military importance and heavily fortified it. Sultan Ahmed Jalair (1382-1410), the ruler at the time, entrusted the defense of the fortress to his son Malik Tahir and the experienced general Amir Altun, while he fled Tabriz for Damascus [5, p.1]. In a message sent to Timur, Sultan Ahmed cleverly remarked, "Though my wrist is unsteady in battle, my leg is not lame to flee" [6, p.89].

As the siege dragged on, the fortress was nearly on the verge of surrender due to a shortage of water, but a sudden heavy rainfall replenished their supplies, and the defenders refused to yield. Ibn Arabshah, chronicling Timur’s campaigns, wrote of the fortress’s grandeur, noting that even the Anka bird could not fly past its walls, emphasizing the impregnable nature of Alinja at the time, as seen in Timurid sources [4, p.106].

Amir Altun played a pivotal role in the long defense of the fortress. The skilled general would lead nighttime sorties, launching surprise attacks on Timur’s forces, managing to defend Alinja for 14 years. According to Ibn Arabshah, towards the end of the siege, a dispute arose between Malik Tahir and Amir Altun, culminating in Altun’s death. Following this, the morale of the fortress's defenders diminished, and they turned against Malik Tahir. In this situation, Malik Tahir took the treasure and fled the fortress [4, p. 110]. The Timurid forces capitalized on the internal discord, and after a 14-year siege, they finally captured Alinja in 1401, fulfilling their long-standing objective. Alinja's ability to resist the forces of the most powerful ruler of the East for such an extended period is a testament to its strategic strength and resilience.

However, it is important to note that the Timurids were unable to maintain control over Alinja Fortress for long. After the death of Amir Timur in 1405, the fortress came under the control of the Jalair and Karakoyunlu forces. Even after these events, Alinja Fortress continued to play a role in the conflicts between the leaders of the Karakoyunlu and the Timurid rulers. During this period, it is known that the impregnable fortress was controlled by the Karakoyunlu [7, p. 118]. According to Muhammad al-Huseyn’s "Tarikh i Kabir," a medieval source, during the reign of Karakoyunlu ruler Kara Iskandar (1421-1434), Iskandar sought refuge in Alinja Fortress after the Timurids entered Tabriz [8, p. 91-92]. In the ensuing battles, the Timurid ruler Mirza Shahrukh attacked Alinja and captured the Karakoyunlu treasury. During the rule of Karakoyunlu Jahanshah (1434-1467), the fortress remained under Karakoyunlu control, and it is recorded that after Jahanshah's brother Kara Iskandar was defeated, he retreated to Alinja, where he was killed by an Armenian [9, p. 292-293].

In the subsequent period, Alinja Fortress became a key site in the power struggle between the Karakoyunlu and Aggoyunlu tribes. When the Aggoyunlu defeated the Karakoyunlu dynasty in

1468, they took control of the fortress, which retained its military and strategic importance. From this time on, Nakhchivan and Alinja Fortress were under the authority of Aggoyunlu emirs, who, like their predecessors, repaired the fortress and used it as a key defensive stronghold. Even during internal power struggles, the fortress played a crucial role. For instance, after Baysungur Mirza of the Aggoyunlu won a power struggle (1490-1492), he imprisoned his rival Rustam Mirza in Alinja Castle to keep him under control [10, p. 102-103]. This event is detailed in Hasan Bey Rumlu’s "Ahsan et Tawarikh." According to Rumlu, Ayba Sultan, aiming to free Rustam Mirza, sent a message to Sidi Ali Bey, the judge of Alinja Castle, suggesting that freeing Rustam would benefit Azerbaijan and Iraq. Sidi Ali Bey accepted the proposal, allied with Ayba Sultan, and released Rustam Mirza [11, p. 600; 12; 13; 14]. Subsequently, during Rustam Mirza's rule (1492-1497), Alinja Fortress was again mentioned in his conflict with his opponent Godek Ahmed, with the battle becoming known for its intensity due to the fortress's strategic position. The frequent references to Alinja Fortress during the Aggoyunlu period highlight its continued significance during that era.

Even during the Safavid era, one of the most powerful states to emerge in Azerbaijan during the Middle Ages, Alinja Fortress retained its military and strategic significance. With the rise of the Safavids, a new dominant power was established in the region, leading to fresh rivalries and conflicts. In this context, the importance of defensive structures, crucial for the security and stability of the state, grew significantly. Alinja Fortress gained increased value during times of resistance against foreign invasions and internal conflicts. Its role became more prominent during the Safavid-Ottoman wars. After the Battle of Chaldiran between Shah Ismail, the first Safavid ruler, and Ottoman Sultan Selim, the Ottoman army captured Nakhchivan and seized Alinja Fortress [15, p. 28]. In 1534, Hasan Rumlu noted that after Sultan Suleiman's army, led by Ibrahim Pasha, entered Tabriz, Khosrov Pasha was sent to capture Alinja Fortress [11, p.247; 16, p.148]. This account further underscores the ongoing strategic importance of the fortress during this period.

During the Safavid-Ottoman war from 1578 to 1590, Alinja Fortress served as a key strategic point. The Ottomans were particularly focused on capturing the fortress, while the Safavids prioritized its defense. In 1583, following the significant Battle of Meshhal, the Ottoman army pressed forward to bring the Beylarbeys of Azerbaijan under their control. At this time, Tokhmaq Khan, one of the Safavid's most powerful Beylerbeys, lacked the strength to confront the Ottoman forces and therefore sent his family, along with the families of other nobles, to Alinja Fortress for protection while continuing to resist the Ottomans [17, p.212-213]. This demonstrates that the fortress was regarded as the safest and most defensible location during that period. Tokhmaq Khan’s decision to entrust the safety of his family to the fortress highlights its strategic importance. However, the Safavids’ eventual defeat in this war resulted in the Nakhchivan region, including Alinja Fortress, falling under Ottoman control. After Shah Abbas I took power and implemented military reforms, the Safavid army regained strength and successfully waged a war to reclaim lost territories, including the Alinja Fortress. The fortress played a prominent role in the Safavid-Ottoman wars of the 16th and 17th centuries, underscoring its crucial strategic value. The location of Alinja Fortress was a decisive factor in these conflicts, which is why both empires placed such importance on controlling it.

What sets Alinja Fortress apart from other medieval defense fortifications is its role as an ideological center. The area surrounding the fortress, with its medieval hermitages, zaviyas, and numerous tombs of sheikhs, dervishes, and their families, established Alinja as one of the main Sufi hubs in the region. In the 14th and 15th centuries, the fortress was especially known as the ideological center of the Hurufi Sufi sect. Many scholars and disciples engaged with Hurufi teachings at Alinja were closely connected to the broader Sufi environment, allowing Hurufi ideas to evolve through interactions with Sufism. The joint dissemination of both Hurufi and Sufi teachings at the fortress helped to foster closer social and cultural ties between the two sects during that era. The mystical interpretations of letters in Hurufi thought and the concept of soul purification in Sufism created an atmosphere where spiritual groups could draw from one another. In this context, scholars, spiritual guides, and disciples explored the intersections of Hurufism and Sufism, offering new spiritual paths to society.

After the Mongol invasions, the people of Azerbaijan, Iran, Iraq, Syria, Anatolia, and Central Asia faced not only financial hardships but also a spiritual crisis. In response, many turned to religious sects, and Sufi orders gained widespread influence. Hurufism, which emerged as a prominent Sufi movement in the late 14th and early 15th centuries, attracted a substantial following. The sect’s founder, Fazlullah Naimi, authored *Javidannama*, which served as the key guide for Hurufi disciples. One of the most notable figures of this sect was the Azerbaijani poet Imadaddin Nasimi.

Hurufism held the belief that letters had divine symbolic meaning and that humans embodied a divine essence. They promoted the idea that God

could manifest within human beings, which set them apart from traditional Islamic teachings. These beliefs were regarded as heretical by Islamic scholars, particularly during the Timurid period, leading to a fierce opposition against the sect [18, p. 408]. Historically, Alinja Castle served as a spiritual stronghold for the Hurufi movement, providing a conducive environment for the spread of their ideology. The presence of Hurufis at the castle facilitated their interaction with Sufi leaders and other mystical movements. It is noted that in 1394, Miranshah, the son of Emir Teymur, executed the Hurufi leader Fazlullah Naimi during the siege of Alinja Fortress, further underscoring the castle’s role as the ideological center of Hurufism [19, p. 229] The influence of the castle significantly contributed to the spread of these ideas.

Beyond serving as the ideological center of Hurufism during this period, Alinja Castle played a crucial role in the expansion of the sect. The Hurufi ideology caused significant concern among Islamic scholars and authorities, leading to severe persecution of its members. The reason Alinja became a hub for Sufi sects was not just its defensive strength but also its function as a religious and spiritual center in the region.

Alinja Mountain Fortress

Enterance Gate of Alinja Fotress

Conclusion

The Alinja Mountain Fortress, with its strategic location and historical evolution, became an indispensable stronghold in the defense of medieval states in the region. Its role extended far beyond military engagements, serving as a crucial site in both internal power struggles and external resistance to invaders. This legendary fortress earned lasting recognition, particularly for its ability to withstand the prolonged sieges by Amir Timur's formidable army—one of the most powerful military forces of its time. Its success in enduring such intense assaults underscored the fortress’s strategic design, defensive capability, and the resilience of those who defended it, cementing its place in regional military history.

Yet, the significance of Alinja Fortress was not limited to its military accomplishments. It also evolved into an important religious and ideological

refuge. The fortress became a sanctuary for spiritual and religious sects like Sufism and Hurufism, which thrived within its protective walls. Its naturally fortified geography, paired with its secluded position, made it an ideal location for these movements to flourish, shielded from external political and religious pressures. This sanctuary allowed not only the physical protection of religious leaders and followers but also provided the space for the development and dissemination of their ideologies, contributing significantly to the cultural and spiritual life of the region.

The fortress thus functioned as both a military bastion and a hub of religious and ideological activity, creating a unique legacy that intertwined political power and spiritual influence. This dual identity—fortress and spiritual sanctuary—enhanced its historical significance, demonstrating that Alinja was not merely a defensive structure, but also a center for cultural and intellectual life. The spread of Hurufism and the safeguarding of Sufi ideology within the fortress's walls reflect its broader role in shaping the spiritual and ideological landscape of the time.

Ultimately, Alinja Mountain Fortress stands as a symbol of resilience, both in its military endurance and its role as a bastion for religious and philosophical thought. Its strategic significance in warfare and its importance as a center for spiritual refuge gave it a multifaceted legacy, leaving an indelible mark on Azerbaijan’s history. The fortress not only protected the physical realm but also fostered the development of religious movements that would influence the ideological trajectory of the region. In this way, Alinja Mountain Fortress remains a historical and cultural landmark, embodying both the strength of its fortifications and the depth of the spiritual traditions that took root within its walls.

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COP 29: Climate change policies and ecosystem services for the protection and management of mountain ecosystems

Ayten Heydarli

Western Caspian University
ayten.heyderli@wcu.edu.az

Abstract

This article examines climate change policies, the importance of mountain ecosystem protection, conservation organizations, and ecosystem services about COP 29, and how conservation actions can be organized for this. Mountains play an important role in human life with their rich biodiversity and ecosystem services, but climate change and human activities threaten these unique environments. The article discusses the impact of mountains on ecosystem services such as water supply, soil conservation and cultural heritage. At the same time, threats facing mountain ecosystems, such as deforestation and overexploitation of resources, are also in focus. Effective approaches to organizing conservation, including the creation of protected areas, the development of ecotourism and the education of local communities, are explained in detail. This study provides a road map for sustainable development, highlighting not only the ecological but also the economic and social importance of protecting mountain ecosystems.

Keywords: mountain ecosystems, policies, ecosystem services, protective measures

Introduction

"COP, the UN Framework Convention on Climate Change, means the Conference of the Parties as an institution established for making supreme decisions, and 198 countries are represented here. As a result of the unanimous vote of 195 countries in 2023, the conference held in the United Arab Emirates decided that 2024 Azerbaijan will host the conference in 2018. "Considering that the biggest event held in our country until now was the European Games. About 8,000 foreign representatives visited our country", then we can see how big the responsibility of COP 29 is. COP 29 is the 29th session of the UN Climate Change Conference, and the countries participating in this session (190 countries) are trying to realize the goal of developing new policies and strategies in the fight against climate change. The state policy of each country that will participate in COP 29 will include uniform directions adapted to the characteristics of its country but accepted by the world. To combat climate change, countries can first adopt strict rules to reduce carbon emissions, which include switching to renewable sources of energy production, energy efficiency, and the introduction of technologies that reduce industrial emissions.

The second is to take measures for the sustainability of development. Participating states should harmonize and integrate their policies to combine economic growth with ecological balance. Because the promotion of a green economy, financing of environmentally friendly projects and implementation of sustainable agricultural practices are important areas.

Third, raising public awareness is important in the policy of states fighting climate change. States can submit proposals to implement education and awareness programs to increase public participation in the fight against climate change. Thus, the conscious participation of every citizen is required in this struggle, and public policies help citizens understand the effects of climate change with uniform policies.

Fourthly, it is emphasized that finance and investments also play a role in the policies of states. To increase investments to combat climate change, countries can help solve the problem by creating special funds for climate investments. Such a policy can also help participating parties provide financial support to developing countries.

The fifth step emphasizes that by strengthening international cooperation, parties can achieve at least a partial solution to a global problem, which is climate change, and therefore intergovernmental cooperation is essential. At COP 29, it is not excluded that cooperation opportunities in areas such as information exchange, technology transfer and joint research on climate change will be

discussed between countries.

These directions are only part of the public policies discussed within the framework of COP 29. Each country will develop approaches tailored to its specific circumstances and resources. Increasing coordination at the global level to prevent and adapt to climate change is critical. In this sense, it is expected that the protection of mountain ecosystems, organization of protection and ecosystem services will also be discussed in the discussion of climate change.

Mountain ecosystems are regions directly affected by climate change. Climate change causes melting of mountain glaciers, depletion of water resources and changes in biomass. One of the main issues to be discussed at COP 29 is the protection and sustainability of mountain ecosystems. This is important not only for environmental health but also for the economic well-being of local communities and the preservation of cultural heritage.

COP 29 (United Nations Climate Change Conference) is an important platform for global discussions to combat climate change and ensure sustainable development. In this conference, the effects of climate change on ecosystems, including mountain ecosystems, are the focus of special attention. At this conference, topics such as the organization of conservation strategies related to the protection of mountain ecosystems, the development of ecotourism, increasing the role of local communities and sustainable use of resources will be discussed. As mountains are important for ecosystem services, water supply and climate regulation, the protection of these services should be high on the COP 29 agenda. The President of the Republic of Azerbaijan, Ilham Aliyev, said in his meeting on COP 29: "I do not doubt that we will hold the COP29 international conference at a high level, it will be the next great success of our country and people. At the same time, Azerbaijan will show itself in this field as an oil and gas country, and everyone in the world will once again see that our agenda is related to green energy. r. The creation of green energy types and the transportation of green energy to world markets are currently the priorities of our energy policy. This is reality and the whole world will see it again." [1].

Azerbaijan is a country rich in mountains. The Greater Caucasus, Lesser Caucasus, and Talysh mountains occupy large areas. Districts and villages are located in the heart of these mountains. People settle and live in mountainous areas and form relationships between people and nature. Mountain people are in contact with the environment, taking advantage of the material and non-material aspects of the mountains, exhibiting a unique approach to nature. Therefore, it is necessary to evaluate the climate changes and direct them to the protection and protection services of mountain systems. Mountains are a cultural heritage, a source of food, and a place of spiritual peace. The springs and waterfalls flowing from the mountains are the source of water. And water is life and an important global problem. Public policies should regulate water use using possible financial opportunities as a result of water conservation measures. It should take into account the construction of water reservoirs, the laying of water-carrying pipes from abundant watery areas to waterless areas, the organization of recycling of rain and snow water, and other such issues. During the implementation of policies, it is necessary to pay attention to the ways of living and livelihood of the mountain people, to observe that their relationship with nature directly depends on the mountains, their worldviews, and the ways of living related to the life of grasslands, settlements, shepherds. Not harming these people should be done considering ecosystem services problems. Because "They also rely on the natural resources of forests, rivers, lakes, mountain ecosystems and soils to sustain their daily lives and improve their living conditions"[3].

Researchers have established a system of natural values related to traditional life in mountainous areas. The criteria of this system are shown in Table 1.

Table 1. The system of natural values related to traditional life in mountainous areas

TOTAL NATURAL VALUE	NON-USING D VALUES RANGE VALUES	Water	Fresh air in the village, springs, rivers, meadows	Direct use of springs, waterfalls and rivers
		Grasslands	Grazing areas for sheep Wild goats, bears, birds etc. habitats for	Direct use of pastures, animal manure as a heat source
		Plants and fungi	Medicinal and food plants Collection of mushrooms and wild berries	Use of plants and mushrooms as food and medicine, use of plants to make dyes in carpet weaving
		Subalpine meadows	Lawns and plants	Grass cutting, production of plant-based colours
		Wild animals	Dagestan ibex (Capra cylindric ornis), ibex hunting	Use of animal meat and skin
		Rocks and	Building materials, clay	Construction of houses and fences, use of

		stones		rocks for colours, clay for household purposes
		Inspiration	Reflection of natural monuments in local traditions	Worship in the Forty Abdal and Gari Caves, the Caucasus Mountains, Fire Temples, Muchos Woodland, etc.
		Inheritance value	Conservation of existing natural resources and lifestyles related to these resources for future generations (e.g. conservation of pastoral lifestyles, summer pastures, wild animals, plants, etc. protection)	Although hunting of the Caucasian Mountain goat is allowed, the sale of its meat in the community is prohibited. Hunting of Caucasian falcons is taboo, and this species is not hunted. Forest areas are strictly protected.
		Choice value	The value placed on the willingness to contribute to the maintenance or protection of the environment, even if the individual is unlikely to ever use the environment	Public awareness of the great importance of henna culture for the country and the world.
		Cost of existence	The value associated with the existence of traditional ways of life, natural environment, wild species.	Protection of local forest parts, mountain goats, Caucasian sheep
		Altruistic value	Contributing to the protection of the natural environment without expecting anything in return People's willingness to spend time and	People's willingness to spend time and money to protect the culture of the mountains
		Moral value	Local beliefs about nature and the benefits of these beliefs	Mountain people believe in fire, earth, animals and birds

The table is an indicator of the traditional way of life of mountain people, material and non-material, spiritual and aesthetic values that express this life. It is expected that the countries participating in the climate change conference will familiarize themselves with these values direct their policies in the right direction and provide ecosystem services. What are ecosystem services and how are these services reflected in policies? "Ecosystem services are the transformation of natural products and resources into useful products such as wood, water, spiritual values, and protection from natural hazards. The nature of the mountains contains all the ecosystem contributions that are important for the longevity of the community's culture and traditions. Providing people with various natural products, protection from natural hazards, and spiritual and cultural values created by natural beauty belong to the ecosystem services of mountainous areas. Water, valuable food, recreation, tourism resources and all values related to nature are part of ecosystem services. In the mountainous regions of Azerbaijan, ecosystem services permeate all spheres of life and leave indelible traces in people's lives"[4]. The purpose of this article is to present a strategic approach at COP 29 to protect mountain ecosystems and reduce the effects of climate change, to ensure sustainable development and ecosystem health at the global level, and also to restore the ecological balance worldwide and increase the well-being of local communities. "Activities carried out in this direction and their results are part of the efforts made by the world community not only for the health of the natural and ecological environment in the territory of our country but also for the prevention of the global ecological disaster faced by humanity as a whole" [4]. When talking about ecosystem services related to mountains, several priorities are considered: Provision services (material assets of nature) Sand, clay and stone Plants Water Cultural ecosystem services and spiritual importance of nature Heritage values Availability values Regulatory services Ø Summer pastures (meadows) in mountain areas Traditional way of life The ecosystem services to be provided during the policies should follow the constant movement in the mountainous areas. In this direction, researchers have analysed the vertical movement and time of mountain communities through ecosystems and have drawn up a pyramid of movement. Figure 1 shows that pyramid [5].

from June to September

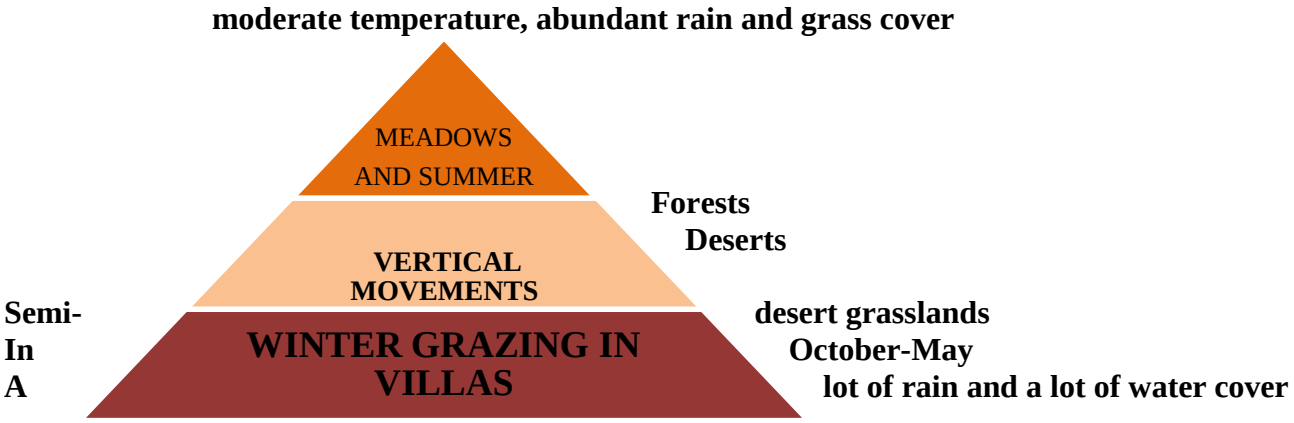

Figure 1. Vertical movement and timing of montane communities through ecosystems

In the case of ecosystem services, many other issues should be reflected in policies:

- Formation of knowledge and skills
- Protective barrier
- Factors causing the loss of values in mountainous areas
  - Climate change
  - Natural resources capital and threats
  - Land degradation
  - Migration and population decline
  - Environmental migration in mountainous regions
  - Flood migration
- the language of their communities is an endangered cultural value

Therefore, to protect the traditional way of life of indigenous peoples and indigenous communities in mountainous regions, COP 29: Policies related to climate change and protection of mountain ecosystems, organization of conservation and provision of ecosystem services should be considered as an important factor in the conference of the parties, in order not to take the lives of future generations from their hands, the planet security must be ensured, the decisions taken by COP 29 must be found, solutions must be found, and the problem must be eliminated.

Method

This paper proposes a qualitative approach to determine the importance of protecting mountain ecosystems and the sustainability of ecosystem services and to investigate the effects of climate change on mountain ecosystems. In this direction, the Qualitative research approach involves semi-structured interviews with experts implementing conservation measures related to mountain ecosystems, representatives of local communities and experts in ecotourism. Focus groups organize discussions on the protection of ecosystems in rural communities, collect the opinions of participants, conduct questionnaire surveys to measure the awareness of local people and tourists about the protection of mountain ecosystems, and evaluate the results by performing statistical analysis of the collected data.

Discussion

Discussing conservation and resource use strategies of local communities related to the protection of mountain ecosystems at COP 29 will allow us to determine how mountains are used for ecotourism and how this can be balanced with conservation strategies. "Mainly, three issues will be discussed at COP 29. They are related to reducing carbon emissions, adaptation and finance. For example, people living in rural areas should be prepared in advance to avoid a flood that can come from a mountain. In other words, they should prepare sandbags in advance to prevent a disaster caused by a flood. Each region should adapt to climate-related issues so that the population does not suffer".[6] At the same time, an in-depth discussion of the effects of climate change on mountain ecosystems and an analysis of the real situation related to the melting of glaciers and the reduction of water resources can help to solve the problem. If mountains are also presented as culture and heritage in discussions, it will create opportunities for a deeper understanding of the connection of mountains with local culture and the importance of preserving these cultures.

Strategic approaches of local communities to protect their cultural heritage can open the door to discussing the relationship between the protection of mountain ecosystems and sustainable development and how to balance the use of resources and the sustainability of ecosystems. If this article is also discussed at COP 29, it will help to explore the impact of global policies on local communities, identify how local and global conservation strategies are related to each other, increase the effectiveness of awareness-raising activities on mountain conservation, and the role of youth and community

members in this field. It is also useful for sharing experiences and increasing learning opportunities. Thus, discussing the experiences of communities from different regions related to mountain protection will enable the parties to present successful protection strategies and projects.

In this sense, the discussion opportunities mentioned in the article provide a broad perspective on the protection of mountain ecosystems and create a deeper understanding by gathering the opinions of various stakeholders. No matter how obvious the problem is, it still requires serious discussion.

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General analysis of the flora, fauna, ecosystem, mountain population, economy, and tourism of the Azerbaijani Mountains

Efendiyeva Leyla Firdovsi, Sevda Sadikhbeyova Rafiq
Western Caspian University
Leyla.efendiyeva@wcu.edu.az, Sevda.sadikhbeyova@wcu

Abstract

This article is dedicated to a comprehensive analysis of the mountainous regions of Azerbaijan, encompassing the flora, fauna, ecosystem, lifestyle of the mountain population, and economic aspects. The first section explores the flora of the mountains, including various plant zones and endemic species. The second section focuses on the fauna, describing mammals, birds, and other animals that inhabit these areas. The third section addresses the ecosystem, its functions, and the threats posed by climate change and human activities.

The fourth section analyzes the life of the mountain population, including ethnic diversity, traditions, culture, and economic activities such as agriculture and tourism. The final section discusses the importance of sustainable use of natural resources, highlighting the economic challenges and development prospects of the region.

The article emphasizes the necessity of a comprehensive approach to preserving the traditional lifestyle of mountain peoples, which is key to maintaining unique biodiversity and ensuring sustainable development in these regions.

Keywords: Flora, Fauna, Azerbaijani Mountains, Ecosystem, Biodiversity, Mountain Population, Culture, Economy, Traditional Activities

Introduction

Located at the crossroads of Eastern Europe and Western Asia, the Azerbaijani mountains represent a unique eco-system with diverse flora and fauna. This geographical position, along with the rich culture and ancient traditions of the local population, transforms the mountainous regions of the country into subjects of scientific research and ecological concern. In this article, we will examine the flora and fauna of the region, the characteristics of the eco-system, the lifestyle of the mountain population, and economic aspects.

The mountainous areas of Azerbaijan, situated at the junction of various climatic and geographical zones, are distinguished by their remarkable biodiversity. Unique ecosystems formed at different altitudes create ideal conditions for the life of numerous plant and animal species. We will take a detailed look at the flora and fauna of the Azerbaijani mountains, highlighting the main characteristics and significance of these ecosystems.

The mountainous regions of Azerbaijan are unique not only in terms of nature but also in terms of culture. The population of these areas is notable for its rich historical heritage, ethnic diversity, and distinctive customs and traditions. This article will explore the lifestyle characteristics, culture, economic activities, problems, and development prospects of the mountain population.

The economy of the mountainous regions of Azerbaijan is diverse and specific due to the unique natural conditions and local traditions. These areas have great potential for development but face several challenges. We will review the main sectors of the economy, the characteristics of Azerbaijan's mountainous regions, and their prospects.

Flora, Fauna, Ecosystem, Mountain Population, and Economy of the Azerbaijani Mountains

Flora and fauna

The mountainous regions of Azerbaijan are characterized by significant biodiversity. The vegetation stretches from subtropical forests to alpine meadows. In the lower mountain zones, one can find plants such as chestnut, oak, and pistachio. At approximately 2000 meters in altitude, coniferous

forests, including spruce and fir trees, thrive. In the alpine zones, rare plant species such as alpine rose and various types of rhododendrons can be found. The mountains of Azerbaijan are home to a diverse array of plant and animal species. Broadleaf forests dominate in the low-land areas, while coniferous trees and alpine meadows are prevalent at higher elevations. Rare and endemic plants like rhododendron and edelweiss make the region's flora particularly valuable (Nigar A. N., 2015).

Diversity of Vegetation

The flora of the Azerbaijani mountains encompasses various plant zones, which can be classified according to altitude:

1.1 Lower Zone (up to 1000 meters): This area is characterized by broadleaf forests dominated by species such as oak, pistachio, chestnut, and walnut. These forests are important ecosystems that support a wide range of wildlife.

1.2 Middle Zone (1000-2000 meters): At this elevation, coniferous forests begin to dominate, featuring trees such as spruce, fir, and cedar. These trees have adapted well to the harsh climatic conditions found at this altitude.

1.3 Upper Zone (2000-3000 meters): At these heights, alpine meadows and shrubs emerge. Rare plant species such as rhododendron and edelweiss, along with various grasses, flourish here. These ecosystems are crucial for maintaining water balance and preventing soil erosion.

Figure 1. Shusha , Azerbaijan

Rare and Endemic Species

The flora of Azerbaijan includes over 4,000 plant species, including rare and endemic ones. For instance, many species of rhododendrons and other flowering plants can be found in this region. The unique conditions in which these plants grow make them crucial for the conservation of biodiversity.

Fauna

The fauna of the Azerbaijani mountains is also diverse. Mammals such as the brown bear, wolf, and wild goat in-habit this area. Birds, including eagles and forest thrushes, make the region significant for ornithology. The variety of species turns the mountainous areas into an important natural habitat for the preservation of biological diversity. Among the animals living in these mountains are the brown bear, wild goat, and various bird species, including eagles (Atabekov R. R., 2018). The biodiversity of mountain ecosystems is a vital element for maintaining ecological balance (Həsənov A.I., 2020).

Mammals

The fauna of the Azerbaijani mountains includes numerous species of mammals. The animals living in the mountain forests include the following:

•Brown Bear: This species, symbolizing the Caucasus wilderness, is seriously endangered due to habitat loss and poaching.

•Wild Goat: The mountains of Azerbaijan are the homeland of this beautiful and graceful animal, which has adapted to the harsh conditions of the mountainous terrain. Hunting by humans has led to a decline in their populations.

•Wolf and Wild Cat: These predators play an important role in regulating the populations of other species in the ecosystem.

Birds

The mountains of Azerbaijan are also famous for their rich bird diversity. Here you can find:

• Eagles: It is estimated that about 10 species of eagles inhabit Azerbaijan, including the lesser spotted eagle. https://az.wikipedia.org/wiki/Qartal#Az%C9%99rbaycanda_qartal

• Quail and Lapwings: These species are found at lower altitudes and are also important for local biodiversity.

Reptiles and Amphibians

The mountains of Azerbaijan are home to a

number of reptiles and amphibians. Here are some species you can find:

• Lizards: Including the Caucasian lizard, which is well adapted to mountainous conditions.

• Snakes: For example, the viper, which inhabits the mountain forests.

• Frogs: Local species like the green frog play an important role in the ecosystem by controlling insect populations.

Ecosystem

The mountain ecosystems of Azerbaijan are affected by climate change and human activities. The mountains perform important functions, including water regulation, erosion protection, and maintenance of climate balance. However, human activities such as deforestation and mining threaten this fragile ecosystem.

Issues related to climate change are also becoming increasingly relevant. Rising temperatures and variable precipitation patterns can impact vegetation and wildlife, leading to ecosystem degradation. Research shows that sustainable natural resource management practices are necessary to protect these unique areas.

Life of the Mountain Population, Ethnic Diversity, Traditions, Culture, and Economic Activities such as Agri-culture and Tourism

Main Ethnic Groups

The mountains of Azerbaijan are home to various ethnic groups, each with its own traditions and way of life. The main groups include:

•Tat People: Traditionally engaged in agriculture and livestock breeding, they have a unique culture with a language that has Persian roots. Tat culture is rich in folklore and folk traditions.

•Lezgins: This group is known for its rich folklore and musical traditions. They are also actively involved in agriculture and animal husbandry.

•Kurds: Primarily residing in the western mountainous regions, their traditions and culture reflect a nomadic lifestyle that characterized their past.

Other Ethnic Groups: In the mountains, one can also find Russians living in mixed settlements. Various ethnic groups inhabit the mountains of Azerbaijan, each with its own unique cultural traditions. The Tat, Lezgins, and Kurds maintain their customs and languages, enriching the region's culture with diversity and color (Quliyev V.N., 2016).

Language and Culture

Each ethnic group has its own distinct language and cultural characteristics. The languages spoken by the mountain peoples include Tat, Lezgi, and Kurdish. Local dialects are diverse and often vary even within the same ethnic group.

The culture of the mountain peoples is expressed through folklore, music, and dance. Festivals such as Novruz are celebrated on a large scale, preserving ancient rites and traditions.

Agriculture: Key crops include grains, potatoes, vegetables, and fruits like walnuts. Mountain inhabitants use traditional methods adapted to the terrain for soil cultivation. These methods enable efficient agriculture in challenging environments.

Animal Husbandry: Raising sheep and goats is a primary source of income. Dairy products, such as yogurt and cheese, play an important role in the diet of the local people.

Handicrafts: The local population engages in various handicrafts, including weaving, traditional clothing, and the creation of household items. The culture of Azerbaijan's mountain peoples has deep historical roots in carpet weaving. This is why many of Azerbaijan's exquisite carpets have been produced by people living in the mountainous regions. Numerous examples of these carpets have found their place in famous museums around the world. The art of carpet weaving is passed down from generation to generation and is closely related to customs and daily life. In mountainous areas, carpets are typically woven by hand on horizontal looms. The techniques and patterns can vary depending on the region and ethnic group. The territory where the people live directly influences the threads and dyeing methods used in the carpets, enriching the variety of carpet types and contributing to Azerbaijani culture. The colors used in carpets are often natural, derived from plant-based dyes, which also benefit human health while giving carpets a deep and rich appearance.

Cultural Significance: Carpets are an essential part of the cultural identity of the mountain peoples. They are used not only as interior elements but also in rituals, celebrations, and wedding ceremonies.

Patterns: Carpets are often adorned with traditional geometric and floral motifs that symbolize various aspects of life and nature. The patterns may also incorporate elements of folklore and mythology.

Materials: Natural materials such as wool, cotton, and silk are used in carpet production. Local artisans carefully select fibers to ensure the durability and beauty of their products.

With the advancement of technology and market development, carpet weaving in Azerbaijan's mountainous regions is beginning to adapt to modern demands by introducing new designs and techniques. However, local artisans strive to preserve the traditions and uniqueness of their products, making them appealing to collectors and art enthusiasts. Economically, carpet weaving is a

significant source of income for the local population. Artisans often sell their products in local markets and through tourism channels. Carpets woven in the mountains of Azerbaijan are not only artistic objects but also important carriers of cultural heritage. Their uniqueness, quality, and traditional significance make them a vital element of the identity of mountain peoples and contribute to the region's cultural and economic potential.

The mountain peoples of Azerbaijan maintain rich cultural traditions. Traditional music, dance, and rituals are essential parts of life. For instance, weddings and other celebrations are marked by numerous rituals passed down through generations.

Tourism: Tourism is becoming an increasingly important sector of the economy in the mountainous regions. Unique natural landscapes, cultural heritage, and traditional lifestyles attract both local and foreign tourists. Ecotourism is rapidly developing in Azerbaijan's mountainous areas. The unique natural scenery and rich flora and fauna draw both local and international tourists. However, it is necessary to consider ecological aspects to preserve the natural heritage (Mədətli S. M., 2021).

Ecotourism: Outdoor activities such as mountain trekking, climbing, and wildlife watching are becoming increasingly popular.

Cultural Tourism: Visiting historical and cultural monuments, as well as participating in traditional festivals and events, allows tourists to immerse themselves in the rich culture of the mountain peoples.

Mining:

The mountains of Azerbaijan are also rich in mineral resources, creating additional opportunities for economic development. The main resources include:

•Minerals: The extraction of various minerals, including gold, silver, and copper, can be a significant source of income for the local population.

•Energy Resources: Although a large portion of oil and gas production is concentrated in the plains, there are development prospects in the mountainous areas.

Complex measures are required to ensure the sustainable development of mountain regions. The main areas include:

1.Development of Tourism: Increasing investments in infrastructure and promoting unique cultural and natural resources can lead to the creation of new jobs.

2.Agriculture: The adoption of modern technologies and practices can improve agricultural productivity and sustainability.

3.Education and Health: Improving access to quality education and healthcare services is essential for enhancing the living standards of the local population. The level of education in mountainous areas is often lower than in cities. Limited access to educational institutions makes it difficult to obtain quality education. Local schools often suffer from a lack of resources and qualified teachers. Healthcare services also remain a problem. In particularly remote villages, local residents face challenges in accessing medical care. Many medical facilities lack adequate equipment and specialists.

It is also important to focus on the preservation of the cultural traditions and languages of mountain peoples. Supporting local initiatives to protect folklore, craftsmanship, and traditional practices will help preserve the region's unique cultural heritage.

1.Deforestation:

Mountain forests play a crucial role in protecting ecosystems, regulating the climate, and preserving biodiversity. However, deforestation for agriculture, construction, and mining leads to serious degradation of forests. Ecological changes such as deforestation and climate change negatively impact agriculture and ecosystems, potentially causing decreased productivity and increased vulnerability for local populations.

2.Climate Change:

Climate change significantly affects mountain ecosystems. Rising temperatures and changes in precipitation can lead to a reduction in snow cover and altered conditions for plant and animal life.

3.Water Pollution:

Mountain rivers and freshwater sources are vital for local populations and ecosystems. However, pollution from agricultural, industrial, and household waste poses a serious threat.

4.Sustainable Development of Agriculture

Although traditional agricultural methods are adapted to mountainous conditions, they often lead to soil depletion and reduced fertility. This is due to poor agricultural practices and the overexploitation of natural resources. The economy of mountain regions mainly relies on agriculture, livestock, and tourism. Traditional farming methods are often affected by modern economic conditions, necessitating adaptation and the application of new technologies (Əlizadə İ.A.,2019).

5.Increased Tourist Pressure

With the growing interest in ecotourism and active recreation in the mountains, there has been an increase in tourist influx. This places stress on fragile ecosystems.

Result

Despite its rich biodiversity, the flora and fauna of the Azerbaijani mountains face serious threats:

1.Habitat Degradation: Deforestation and changes in land use negatively impact ecosystems.

2.Poaching: Improper hunting leads to a decline in the numbers of rare species.

3.Climate Change: Changes in temperature and precipitation patterns can threaten the existence of many species.

Various measures are being implemented to protect the flora and fauna of the Azerbaijani mountains. Nature reserves and national parks are established to safeguard rare plant and animal species. Public awareness about the importance of biodiversity conservation and sustainable use of natural resources is also crucial.

Discussion

1.Sustainable Forest Management.

It is necessary to implement sustainable forest management practices, including the restoration of degraded forests and the protection of natural areas. This will help in the conservation of biodiversity and the improvement of ecosystem quality.

2.Education and Awareness Raising.

Increasing the education level of the local population regarding ecological problems and sustainable development can foster a more responsible attitude towards natural resources. Training in both traditional and modern agricultural practices will also help improve the health of ecosystems.

3.Regulation of Agriculture

Implementing standards and practices for sustainable agriculture will help reduce environmental impact. The use of organic fertilizers and crop rotation methods can enhance productivity and protect soil fertility.

4.Development of Ecotourism

Developing sustainable ecotourism programs can provide economic benefits to local communities while helping to reduce pressure on ecosystems. It is essential to create infrastructure that ensures minimal impact on nature. For the successful development of ecotourism in Azerbaijan's mountainous regions, several key aspects should be considered. Training local personnel through education and skill development is crucial. It is important to teach the local population the fundamentals of ecotourism, including how to serve tourists, conduct excursions, and comply with ecological standards.

Creation of Protected Natural Areas: Establishing reserves and national parks to protect unique ecosystems and species of flora and fauna. Additionally, ecosystem restoration programs, such as tree planting and water purification, are key factors influencing the development of ecotourism.

The development of tourism routes will allow visitors to discover local cultural and natural attractions, leading to the creation of engaging programs. Active use of online platforms and social networks is necessary to attract tourists.

Moreover, educational campaigns for tourists should be organized to highlight the importance of preserving the nature and culture of Azerbaijan's mountainous regions.

5. Protect Water Resources

Strategies must be developed for water resource conservation, including monitoring wastewater discharge and using environmentally friendly technologies in agriculture and industry.

Conclusion

Azerbaijan's mountains represent unique ecosystems rich in diverse flora and fauna. These areas are significant not only ecologically but also in terms of the cultural heritage of local peoples. Protecting this wealth requires a comprehensive approach that includes environmental conservation and sustainable use of natural resources. Only in this way can we ensure the well-being of both nature and future generations. The mountainous regions are rare places inhabited by peoples with rich cultures and traditions. Despite existing problems, the mountain population continues to preserve their customs and way of life. The sustainable development of these regions, aimed at supporting traditional activities and improving living conditions, could be the key to a successful future for Azerbaijan’s mountain communities.

The mountains can be transformed into a significant potential for the sustainable development of Azerbaijan's economy. Utilizing local resources, developing tourism, and supporting traditional activities can create new opportunities for local people. To achieve these goals, it is crucial to implement comprehensive measures aimed at preserving the cultural and natural heritage of mountainous areas.

Ecological problems in Azerbaijan's mountainous regions require a collaborative approach and joint efforts from the local population, the government, and environmental protection organizations. The protection of unique ecosystems and the sustainable use of natural resources will be fundamental to ensuring the wellbeing of mountain regions and their inhabitants in the future.

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Ecological and cultural problems of mountain cultures of the Caucasus and their solutions

Rauf Tofig Mammadov
Baku, Azerbaijan, Western Caspian University,
Department of Philosophy, researcher,
Ph.d, Associate Professor
ORCID 0000-0002-5136-677X
rauf.mammadov@wcu.edu.az

Kamala Mehdi Mammadova
Azerbaijan University of Architecture and Construction,
Ph. D. (Economics) Associate Professor,
ORCID 0000-0002-3100-6160,
kama.1973@list.ru

Abstract

The mountain cultures of the Caucasus are deeply intertwined with their natural environment, embodying a rich heritage of traditions, ecological practices, and indigenous knowledge. However, these cultures face increasing threats from modernization, environmental degradation, and socio-political changes. Rapid urbanization, loss of biodiversity, and climate change are eroding the ecological systems that support traditional ways of life. Additionally, the younger generation's disconnection from their cultural roots exacerbates the challenge of preserving this eco-cultural heritage.
To address these challenges, a comprehensive strategy is needed that includes educational programs promoting cultural and environmental awareness, international collaboration, and community-led conservation efforts. Integrating digital tools such as virtual learning platforms and social media campaigns can further enhance these initiatives, making cultural heritage accessible to a global audience while engaging younger generations. The preservation of the Caucasus' eco-cultural heritage is vital not only for the continuity of local traditions but also for maintaining the region's unique environmental and cultural landscape for future generations.

Keywords: Caucasus; mountain; culture; ecological systems; eco-cultural heritage; tradition.

Introduction

The relevance of studying the preservation of the eco-cultural heritage of Caucasus Mountain communities lies in the urgent need to address the intertwined threats of cultural erosion and environmental degradation. As modernization, urbanization, and climate change accelerate, these unique mountain cultures, which have thrived for centuries in harmony with their natural environment, are at risk of disappearing. The loss of traditional ecological knowledge and cultural practices not only undermines the identity of these communities but also impacts the biodiversity and sustainability of the region.

Furthermore, the global focus on sustainable development and cultural diversity underscores the importance of preserving such regions, as they serve as living examples of how human societies can coexist with nature. The Caucasus, with its strategic geopolitical location and rich cultural tapestry, holds both national and international significance. Exploring effective preservation strategies is not only crucial for the people of the Caucasus but also contributes to global efforts in heritage conservation, environmental sustainability, and fostering cultural diversity. Thus, this research is highly relevant in addressing contemporary challenges related to the protection of both cultural identity and ecological balance in a rapidly changing world.

The Caucasus region is renowned for its rich cultural diversity and unique ecological systems, especially within its mountainous areas. The cultures of these mountain communities are deeply rooted in the environment, with their traditions, livelihoods, and spiritual beliefs closely tied to the natural landscape. Over centuries, these communities have developed sustainable practices to live in harmony with the mountains, preserving biodiversity while maintaining their cultural identity. However, the forces of modernization, environmental degradation,

and socio-political shifts have increasingly threatened the eco-cultural fabric of these communities. Urbanization, deforestation, and climate change are eroding traditional ecological practices, while younger generations are becoming disconnected from their cultural heritage [12, 55].

The need to preserve this fragile eco-cultural existence has become urgent. Without concerted efforts to address both the environmental and cultural dimensions of these challenges, the region risks losing its unique heritage. The preservation of mountain cultures in the Caucasus is not only vital for maintaining cultural diversity but also for protecting the ecological integrity of the region [22, 55].

Research Hypothesis: The preservation of the eco-cultural heritage of Caucasus mountain communities requires a holistic approach that integrates environmental sustainability, cultural transmission, and community engagement, with a particular focus on engaging younger generations.

Research Goals and Objectives: The primary goal of this research is to develop strategies for preserving the eco-cultural heritage of the Caucasus mountain communities. The specific objectives are:

To analyze the current challenges facing the eco-cultural existence of these communities, including environmental degradation and cultural disconnection.

- To examine the role of education, community involvement, and digital technologies in promoting cultural and environmental preservation.
- To propose sustainable solutions that involve local populations, particularly the youth, in the transmission of traditional ecological knowledge and cultural practices.
- To explore international collaboration opportunities for the conservation of both the cultural and environmental heritage of the region.

This research aims to provide actionable insights that can contribute to the long-term preservation of the Caucasus mountain cultures.

The methodological foundations for addressing the preservation of the eco-cultural heritage of Caucasus mountain communities involve a multidisciplinary approach that integrates both qualitative and quantitative research methods. Given the complexity of the issue, which encompasses environmental, cultural, and social dimensions, several key methodologies are relevant.

Impact of Modernization and Globalization

Modernization and globalization have profoundly influenced the eco-cultural heritage of Caucasus Mountain cultures. The relentless pursuit of industrialization and technological advancement has resulted in both opportunities and challenges for these traditional societies.

Economic Opportunities:

- Market access for artisans.
- Developed infrastructure leading to easier transportation.
- Increased employment through tourism.

Cultural Erosion:

- Traditional crafts and practices face extinction due to mass-produced goods.
- Language loss as younger generations adopt dominant global languages.
- Shift in value systems influenced by global culture [18, 44].

Environmental Concerns:

- Deforestation and loss of natural habitats due to industrial projects.
- Water pollution from increased industrial activities.
- Climate change exacerbates vulnerability of mountain ecosystems [4, 925].

In the realm of connectivity, globalization has improved access to information and communication technology, making it easier for these remote communities to engage with the broader world. However, this integration has come at a cost, particularly in terms of cultural dilution. The influx of global media and consumerism skews local preferences, fostering a decline in traditional dress, music, and cuisine.

Modern education systems, while beneficial in opening up new avenues, often sideline indigenous knowledge systems that are crucial for managing local ecosystems sustainably. Additionally, the adoption of new agricultural technologies undermines time-tested traditional farming practices that have been adapted to the harsh mountain conditions over centuries [8, 210].

Similarly, the tourism industry, while providing an economic boost, contributes to cultural commodification. Local traditions and festivals often get repackaged to suit tourist expectations, which can lead to a loss of authenticity and significance for the local population. Moreover, uncontrolled tourism can strain limited natural resources, jeopardizing the fragile ecological balance.

The dual forces of modernization and globalization present a complex landscape for Caucasus Mountain cultures, characterized by a tension between economic development and cultural preservation. The challenge lies in harnessing the benefits while mitigating the adverse impacts on eco-cultural heritage.

Mountain communities in the Caucasus face a

variety of challenges that threaten their eco-cultural heritage. These challenges are multifaceted and require comprehensive responses to ensure the sustainability of both the natural environment and cultural traditions [9, 2000].

Environmental Degradation

- Unregulated logging practices contribute to soil erosion, loss of biodiversity, and disrupted water cycles.
- Rising temperatures and erratic weather patterns jeopardize traditional agricultural practices and increase vulnerability to natural disasters.
- Industrial activities, tourism, and improper waste management lead to pollution in fragile ecosystems [15, 92].

Economic Constraints

- Many mountain communities rely heavily on agriculture and pastoralism, which are increasingly unsustainable. There is a lack of diverse economic opportunities.
- Economic hardships prompt younger generations to migrate to urban areas, leading to depopulation and the erosion of cultural practices.
- Poor infrastructure, including inadequate roads, electricity, and healthcare services, exacerbates the economic challenges [20, 306].

Cultural Preservation

- With the outmigration of the youth, there is a decline in the transmission of traditional knowledge and languages.
- Globalization and external cultural influences erode unique local customs, crafts, and folklore.
- Limited access to quality education hampers efforts to revitalize and sustain cultural heritage [6, 35].

By addressing these interconnected challenges, efforts to preserve the eco-cultural heritage of Caucasus mountain cultures can be more effectively strategized and implemented.

Eco-cultural disasters caused by Armenia in Karabakh

Karabakh, a region renowned for its breathtaking landscapes and rich cultural legacy, has long been considered one of the most beautiful areas in the Caucasus. Its diverse terrain, which includes verdant valleys, majestic mountains, and pristine forests, has made it a symbol of natural abundance. Culturally, the region has historically been a melting pot of various traditions, showcasing centuries-old architecture, religious sites, and monuments that reflect the intricate history of the Caucasus. The interconnection between the natural environment and cultural identity in Karabakh has always been significant, with the landscape shaping the local traditions and ways of life [5].

However, the decades-long occupation of Karabakh caused devastating harm to both its environment and its cultural heritage. Armenian forces, during the occupation, inflicted widespread damage that profoundly altered the region. Extensive deforestation ravaged Karabakh's forests, contributing to soil erosion, loss of biodiversity, and degradation of local ecosystems. In some areas, agricultural land was abandoned or misused, further disturbing the natural balance. Rivers and water bodies were polluted, exacerbating the ecological crisis in a region once celebrated for its pristine nature [1, 34-35].

Equally devastating was the impact on Karabakh’s cultural heritage. Numerous historical monuments, religious sites, and cultural landmarks were either neglected, destroyed, or intentionally damaged. Mosques, cemeteries, and architectural treasures that had stood for centuries were desecrated or demolished, erasing tangible pieces of the region’s multicultural past. These acts of cultural vandalism not only targeted physical structures but also aimed to erase the historical memory and identity of the local Azerbaijani population.

Following the liberation of Karabakh, the Azerbaijani government has committed to restoring both the environment and cultural heritage of the region. Environmental restoration efforts are underway, focusing on reforestation, cleaning up polluted rivers, and rehabilitating wildlife habitats. Reforestation projects aim to replant trees, stabilize soil, and bring back biodiversity to the area. Ecological experts are also working on sustainable land use practices to revive agriculture and restore natural resources that were depleted during the occupation.

Simultaneously, the restoration of cultural heritage has become a national priority. The government, in cooperation with international organizations and cultural preservation experts, is mapping out the restoration of historical monuments, mosques, and other cultural landmarks. These efforts aim to not only rebuild the physical structures but also revive the cultural and historical significance of the region for future generations. Additionally, the protection of cultural artifacts, many of which were damaged or lost during the occupation, is a critical part of this rehabilitation process.

Karabakh’s reconstruction is seen as an opportunity not just for physical recovery but for reconnecting the region’s people with their cultural and environmental heritage. By restoring natural ecosystems and rebuilding cultural monuments, Azerbaijan aims to heal the scars left by years of occupation, and in doing so, ensure that future generations inherit a region rich in both ecological

diversity and cultural significance.

In the long term, the government's efforts to restore Karabakh’s natural beauty and cultural legacy are also intertwined with socio-economic development plans, including the promotion of eco-tourism and sustainable agriculture, which will contribute to both the local economy and the broader goal of preserving the region's heritage [5].

One of the most pressing challenges the Azerbaijani government faces in addressing the eco-cultural disasters in Karabakh is the extensive landmining carried out during the Armenian occupation. This situation poses significant obstacles to recovery efforts, as the presence of unexploded ordnance hampers restoration activities and poses risks to the safety of local populations and workers involved in rehabilitation projects.

The Azerbaijani government has repeatedly requested detailed maps of mined areas from Armenia to facilitate the safe clearance of land and allow for the restoration of both the natural environment and cultural heritage. However, Armenia has resisted these requests, leading to frustrations on the Azerbaijani side. This refusal stems from a reluctance to take responsibility for the extensive ecological and cultural damage caused during the occupation.

The lack of cooperation regarding mined areas not only complicates immediate recovery efforts but also prolongs the suffering of communities wishing to return to their homes and revive their livelihoods. The presence of mines and unexploded devices poses a significant barrier to sustainable development, making it difficult to implement reforestation, agricultural initiatives, and infrastructure rebuilding.

Moreover, the situation highlights the broader implications of the conflict for both nations. The failure to address these eco-cultural crimes through collaborative efforts underscores the ongoing tensions between Azerbaijan and Armenia, complicating the peace process and reconciliation efforts.

Ultimately, resolving the issue of landmines is crucial for Azerbaijan’s plans for the sustainable recovery of Karabakh. Effective landmine clearance not only enhances safety but also paves the way for restoring the region’s natural beauty and cultural identity, allowing communities to reclaim their heritage and forge a path toward a more peaceful future.

The Importance of Tourism: Opportunities and Risks

Tourism serves as a double-edged sword for the eco-cultural heritage of Caucasus Mountain cultures. It presents numerous opportunities for economic development and cultural exchange, but it also introduces risks that could undermine the very assets it aims to showcase. Understanding these dynamics is essential to preserving the integrity of the region [2, 200].

***Opportunities**:*

- Tourism can significantly boost local economies. It creates jobs and sustains traditional crafts, hospitality services, and local food production.
- Increased visitor interest often leads to heightened efforts to preserve cultural sites and traditions. Local customs, music, and dance receive renewed attention and support [3, 9].
- Tourism often necessitates improved infrastructure. This includes better roads, healthcare, and communication facilities that benefit local communities.
- Interaction with tourists can raise awareness among locals and visitors alike about the importance of preserving ecological and cultural heritage [7, 93].

***Risks**:*

- High volumes of tourists can overwhelm the natural environment. This leads to issues like littering, habitat destruction, and pollution, threatening the region’s biodiversity.
- The influx of tourists can sometimes dilute or commercialize local traditions. Practices tailored to tourist expectations may emerge, leading to an erosion of authentic cultural expressions.
- Tourism often brings uneven benefits. Wealth generated can become concentrated in specific areas or among particular groups, heightening local economic disparities.
- Excessive tourist numbers can lead to overcrowding, which strains local infrastructure and degrades the quality of life for residents. This may create tensions between tourists and locals [10, 52].

Addressing these opportunities and risks requires a balanced approach. Sustainable tourism models encourage responsible travel and ensure that tourism benefits local communities without compromising their cultural and ecological assets.

- Implementing strict regulations and constant monitoring to control tourist numbers and activities.
- Ensuring local communities play an active role in tourism planning and implementation.
- Conducting education programs aimed at tourists and locals about the importance of preservation [25, 703].

Economic Practices and Sustainable Livelihoods

Traditional economic activities in the Caucasus Mountain regions include agriculture, animal husbandry, and craft-making. These practices have evolved over centuries, merging functionality with environmental conservation. By leveraging the region's unique geography and climate, indigenous communities have developed systems that harmoniously balance resource use [14, 57].

Agricultural methods primarily focus on crop rotation and terrace farming, which mitigate soil erosion while maximizing arable land. Crop rotation used to maintain soil fertility and reduce pest infestations. Terrace farming prevents soil erosion and water loss on steep slopes, ensuring better crop yields [24, 420].

Animal husbandry remains a cornerstone of local economies, emphasizing sustainable practices. Maintaining a variety of livestock contributes to biodiversity and food security. Traditional crafts serve as both cultural heritage and economic resources. Handwoven textiles preserve cultural motifs while supplying local and international markets. Intricate metal crafts reflect artistic heritage and provide livelihoods [13, 45].

Traditional irrigation systems, known as qanats, efficiently distribute water across farmlands. Controlled harvesting and replanting ensure forest sustainability [11, 49]. The combination of these diverse economic practices ensures a sustainable livelihood for the Caucasus Mountain communities, safeguarding both their cultural heritage and environmental integrity [17, 372].

The Caucasus region has always held significant geo-economic and geo-political importance due to its strategic location at the crossroads of Europe and Asia. Today, with the revival of international trade routes and increasing global demand for energy resources, the Caucasus has become even more crucial in the context of global commerce, energy transit, and political influence [16, 23].

The Caucasus lies between the Black Sea and the Caspian Sea, positioning it as a key land bridge connecting Eastern Europe, Central Asia, the Middle East, and Russia. This geography is central to major trade routes, such as the East-West and North-South transport corridors.

Modern initiatives, such as China's Belt and Road Initiative (BRI), have enhanced the Caucasus' role in facilitating trade between China and Europe. Through key countries like Georgia and Azerbaijan, the region provides a vital overland route for transporting goods.

Ways of protecting the eco-cultural heritage of Caucasian mountain cultures

Preserving the eco-cultural heritage of Caucasus Mountain cultures necessitates concerted efforts from multiple stakeholders. Each entity plays a unique role in ensuring the sustainability of this rich heritage:

Government Initiatives:

- Governments can develop and implement policies aimed at protecting natural and cultural assets. Policies may include biodiversity conservation, land-use planning, and heritage site protection.
- Financial support for conservation projects, research, and community-based initiatives. This encourages long-term investments and stakeholder engagement.
- Establishing regulations that safeguard against illegal activities such as poaching, deforestation, and unauthorized constructions. Law enforcement agencies are vital in ensuring compliance [23, 341].

Non-Governmental Organizations (NGOs):

- NGOs play a pivotal role in raising awareness about the importance of preserving the eco-cultural heritage. They use campaigns, educational programs, and media to educate the public and policymakers.
- Providing specialized knowledge and skills necessary for the effective implementation of conservation projects. This includes ecological assessments, cultural heritage documentation, and community training [19, 61].
- NGOs can secure international funding, facilitate grants, and provide logistical support for large-scale projects. Collaborations with global conservation entities expand the resource base.

Local Community Involvement:

- Local communities possess intimate knowledge of the ecosystems and cultural practices. This knowledge is crucial for developing sustainable conservation strategies [21, 34].
- Involving communities in decision-making processes ensures that their needs and perspectives are addressed. This leads to more relevant and accepted conservation measures.
- Promoting eco-tourism and sustainable practices that provide livelihood opportunities for local communities. This creates economic incentives for the preservation of their heritage.

Coordination and Partnerships:

- Creating platforms where government bodies, NGOs, and local communities can interact and collaborate. Events such as workshops, conferences, and joint projects foster a sense of shared responsibility.
- Establishing systems for regular assessment of conservation efforts. This includes tracking progress, identifying challenges, and adapting strategies as needed.

- Engaging with international organizations and donors to enhance resource mobilization and knowledge exchange. Collaboration with entities such as UNESCO and the World Bank amplifies impact.

Educational programs and institutions play a key role in preserving cultural heritage and promoting environmental sustainability. Higher education and research centers often emphasize the study of local history, traditions, and environmental science, while supporting research into sustainable practices and traditional knowledge. Schools also incorporate regional culture and ecology into their curricula, with extracurricular activities designed to foster an appreciation for traditional skills and environmental awareness. Governments and organizations frequently organize workshops and training programs that focus on sustainable development, biodiversity, and traditional health practices.

International collaboration enhances these efforts through cultural exchange programs and visits, which provide opportunities for individuals to experience different traditions and foster mutual respect. Joint research initiatives promote cross-border cooperation, focusing on sustainability and cultural heritage preservation.

Digital technology further supports these goals by offering virtual learning resources, online tours, and digital archives, making educational materials and cultural artifacts more accessible. Social media platforms are increasingly used to raise global awareness about unique cultural heritage and conservation efforts, engaging audiences worldwide.

Community involvement is crucial in preserving both culture and the environment. Local conservation projects and cultural events strengthen communal bonds and help sustain traditional practices. Engaging younger generations is particularly important, with modern, interactive methods used to inspire interest in cultural heritage and its preservation.

Expert perspectives emphasize that educational efforts should extend beyond formal institutions, reaching into community life so that all members—elders and youth alike—play a role in preserving cultural and environmental legacies. Such comprehensive efforts in education and cultural exchange are vital to protecting the eco-cultural heritage of the Caucasus for future generations [2, 196].

Engaging youth is central to maintaining these traditions. Younger generations hold the key to passing on ancient knowledge and cultural values, making their involvement in preservation essential. Educational initiatives aimed at youth can include workshops that teach traditional crafts, folk music, and local languages, field trips to cultural and ecological sites, and online courses focused on the history and culture of the region. In addition, community-based projects can instill a sense of responsibility, with activities ranging from heritage restoration to environmental conservation [9, 1999].

The use of technology offers another effective way to engage young people. Social media can raise awareness about cultural heritage, while virtual reality tours and mobile apps can provide immersive experiences of historical and natural sites, making tradition more appealing to the tech-savvy generation [12, 55].

Cultural festivals also provide a dynamic platform for celebrating and preserving heritage, featuring traditional music, dance, crafts, and local cuisine. These events not only showcase cultural richness but also actively involve young people in meaningful ways. Mentorship programs further strengthen this engagement by fostering relationships between elders and youth, ensuring the transfer of knowledge and skills [8, 215].

Incentives like scholarships and certifications for those participating in preservation efforts can also motivate youth to take an active role. By using these strategies, the eco-cultural heritage of the Caucasus can be preserved, ensuring its continued transmission across generations.

Conclusion

In summarizing the research on the preservation of the eco-cultural heritage of Caucasus Mountain communities, several key themes emerge. Existing literature highlights the deep connection between the region's cultural practices and its unique ecological environment, emphasizing the challenges posed by modernization, climate change, and cultural disintegration. Many studies underline the importance of education, community involvement, and the integration of digital technologies as essential tools for fostering cultural and environmental preservation. However, despite these efforts, methodological shortcomings remain, particularly in the areas of consistent community engagement, long-term sustainability, and effective youth participation.

One major gap in current research is the limited focus on the practical involvement of younger generations in the transmission of traditional ecological knowledge and cultural practices. While many initiatives acknowledge the role of youth, there is a need for more targeted and sustained educational programs that connect younger people with their cultural heritage. Additionally, while digital technologies are being explored as tools for cultural preservation, there is a lack of in-depth studies on the effectiveness of these technologies in fostering lasting cultural transmission.

Controversies also arise regarding the balance between modernization and preservation. Some scholars argue that certain aspects of modern development, such as eco-tourism and digitalization, could lead to the commercialization of cultural practices, thereby undermining their authenticity. These debates highlight the need for future research to explore sustainable development models that prioritize the needs of local communities while ensuring cultural integrity.

Future research directions should focus on developing sustainable solutions that involve local populations, particularly the youth, in the preservation process. This includes creating more comprehensive educational programs that incorporate traditional ecological knowledge into formal and informal learning systems. Moreover, research should delve deeper into international collaboration opportunities, examining how cross-border partnerships and funding can support both cultural and environmental preservation efforts. Finally, a more robust evaluation of the role of digital technologies in preserving intangible cultural heritage is essential, particularly in ensuring that these tools are used to foster genuine community engagement rather than superficial cultural consumption.

In conclusion, while significant progress has been made in understanding and addressing the challenges of preserving the eco-cultural heritage of the Caucasus, further research and strategic action are needed to ensure that these efforts are sustainable and inclusive of all community members, particularly the younger generation.

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Safavids: Transformation of Sufi sheiks into the ruling dynasty of shahs

Nargiz F. Akhundova

Western Caspian University/ University of Warsaw
ORCID: 0000-0003-1638-2077

Abstract

This article represents the observations made while studying the process of the transition of the dynasty of spiritual leaders of the Sufi order of Safaviye to the rulers of the Safavid state. The main emphasis is placed on the early stage of the transition of the order to the ruling dynasty, as well as on external and internal factors contributing to this transition. The most significant external factor was the Ottoman Empire, which perceived the Safavids as heretics. It was this fact that impressed Europe very much. The latter took the title of Sufi as something antagonistic to the Ottomans. The Sheikhs of the Safaviye were one of the few Sufi leaders who had transformed into ruling shahs. The Sufi system of relations between the spiritual leader of the order and his adherents ("murshid and murid") in the Safaviye order contributed to the strengthening of the political power of the Shah, in other words, developed a kind of *statecraft*. The main points of the development of the order before Ismail Safavi came to the leadership are set out in the form of a general description since the history of all the Safavid sheiks has been covered in detail in my previous writings. In more detail here are the descriptions of the Sufi traditions of the shahs in European sources. One of the central topics in the article is the hereditary connection of the Safavid dynasty with the Aqqoyunlu dynasty which was one of the decisive factors in strengthening the political power of this dynasty. Sheikh Ismail's announcement of himself as the heir and successor of the European favorite Uzun Hasan Aqqoyunlu determined Ismail's success in European courts. To highlight important issues around Ismail's grandfather, Uzun Hasan Aqqoyunlu, along with other sources, the Annals of the Polish medieval chronicler Jan Dlugosz were used. The article reveals the reasons for the use of the title of Sufi by Europeans concerning the Safavid leaders even after they became the ruling dynasty of the Shahs. Since Venice was the leading representative of Europe in negotiations with the Safavids, the most complete information is contained precisely in the materials of the Venice archives. They turned out to be very useful for this study. Interestingly the documents describe that the Venetians were actively interested in the Safavids even before they came to political power.

Keywords: Shaikh Safi ad-din, Uzun Hasan Aqqoyunlu, signor Sophi, Tabriz, the Safavids, Ismail I

Introduction: The Sufi Background

The Sufi orders played an outstanding role in the spread of Islam in various regions of the Muslim East. Among them are Bektashiiye and Mevleviiye in Turkey; the Safaviiye Order, founded in Southern Azerbaijan; as well as the most influential orders of modern times - North African Tirjaniiye and Sanusiiye. The Safaviiye leaders became the only Sufi dynasty of the Middle Ages to transform into a ruling dynasty. The history of the creation of this order is connected with the period of the Il-khanid rule with the center in Tabriz. According to the medieval historian Hamdullah Mostoufi, more than a hundred Sufi sheikhs acted on the territory of the il-khanate alone (32; 745-746). Nevertheless, the Safaviye Order managed to create such a powerful system in the tariqah, which grew into a powerful state and political power over time.

What were the reasons for this success? One of the important reasons was the principle of continuity from father to son (پدر - فرزند), which was not always typical of Sufi tariqas. Indeed, in such organizations, most often it was not blood ties that played a role, but rather the principle of spiritual unity.

The Safaviye Order was founded in Ardabil by Sheikh Safi ad-din Ishaq (1252-1334) (28; 66). According to a geographic composition of the 14th century. "Safwat al-Safa", compiled by the dervish Tawakkul ibn Bazzaz Ardebili, Sheikh Safi during his wanderings was reverently called the "Turkic saint" or "Turkic elder" [*Türk Piri* **پیر ترکی**][1]. Gathering huge masses, the sheik and his tariqah over time involuntarily began to represent a certain political force, so to speak, "a state within a state." "Many, if not most, also came from Asia Minor" (See.: Browne E., J.R.A.S., July 1921, pp.403-404). According to the source "Sahaif ül-ahbar" Ahmad ibn Lutfullah (Müneccimbaşı): "Safavid adherents came here even from such distant lands as Balkh and Bukhara" (4; 8). The Grand Vizier Rashid ad-din and Sultan Oljaytu, as well as Abu Said and Emir Choban, periodically visited Safi ad-din and even

[1] The combination *Piri Türk* is also used in subsequent sources on the Safavid history: "Silsilat-al-nasab-i Safaviya", "Tarikh-e ʿĀlam-ara-ye ʿAbbasi", "Jihan-ara-ye Shah İsmail-i Safavi" and many others.

consulted with him on some issues (6; 12), and "the sons of Rashid ad-din Ahmad and Niyas ad-din were registered as murids of Sheikh Safi and attended the meetings of Sufis arranged by him" (27; 419). Thus, Sheikh Safi "enjoyed not only wide popularity, but also great influence among various segments of the population, including the highest Hulaguid nobility" (Ibid).

Of course, orders of this magnitude could not but have political power. A whole army of adherent-*murids* ready to go into any battle without weapons at the call of their murshid and with faith in him could not but represent, to a sufficient extent, a military force. The "SS" describes cases when Sheikh Sefi offered Emir Choban his army (*ləşkər*) as a help (6; 733-735).

Until a certain time, as long as there was no need, the order never used the resources of its adherents for military and political purposes. Nevertheless, such a need arose already under the spiritual leadership of Sheikh Safi ad-Din’ son, Sheikh Sadr-ad-din, during the reign in Azerbaijan of Melik Ashraf (1344-1356) - "an insidious ruler and cruel tyrant" from the dynasty of the Hulaguid emirs of the Chobanids. Sheikh Sadr ad-Din, finding himself in disgrace, was temporarily forced to settle in Gilan. The source vividly describes how, for the sake of security, Sheikh Sadr al-din arms groups of his adherents, places them around *Dar-ul-Irshad* in Ardabil and engages in political clashes. In addition, the sheikh enters into negotiations with Jani-beg, the khan of the Golden Horde, who rivaled the Chobanids. For the most part, thanks to this alliance, Sheikh Sadr al-Din returns to Ardabil retaining his spiritual leadership in the order [2]. Under subsequent spiritual leaders, the politicization of the order only accelerated.

In general, since its inception, the Safavid state of the Sufi sheiks was unique and had several features. On the one hand, it was a huge union of Turkic tribes, later called *Qyzylbashs*. “... The basis of the *qyzylbash* [3] army was made up of 7 tribes: Rumlu, Shamlu, Mosulla, Zulkadar, etc., quite significant and, almost without exception, Turkic” (15; 14-15) [4]. It is known from the narrative history of the first Sufi Shah Ismail Safavi that the battle cry of the chief officers sounded: "Oh, my spiritual mentor and teacher, whom I serve!" [in Turkic] (Ibid).

At the same time, it was not a tribal confederation in the literal sense, but a religious brotherhood that followed tribal ties, but was able to overshadow them, having heard a voice from above. Sufism was a great force, on the traditions of which the Safavid state was built. Almost all contemporary European diplomats and writers have applied the title "The Great Sophi" to the names of the Safavid shahs. Referring to the reports of Safavid merchants, the Venetian Andrea Chavidal wrote to his government (1504): “The Sufi conquered many important places; everyone is sure that this Sufi will easily and quickly seize all the countries bordering on India and become a great sovereign" (Shah 70). According to E.Browne, "He [Ismail – N.A.] was not only a shah ... but also a sheikh of these dedicated dervishes or Sufis, whose courage delighted the Venetian travelers and who in Europe were called the Great Sufi or Sophie" (15; 20-21). French historian Jean Aubin cites evidence of a French deserter from the Ottoman army, who in 1507 was in the Ismail camp for 3 days, as well as the statements of the Italian Giovani Rota, who visited the Safavid court in 1505: “They adore Sophie [Ismail - N.A.] as Magomed, they do not call him a shah, a prince, but consider him a saint" (11; 42-43).

Even with the passage of time, the Sufi traditions in this state, although they evolved, gradually weakened, but continued to be preserved and observed [5].

Ismail's connection with the Aqqoyunlu line

On the other hand, we are faced with a state that, from the very establishment, did not change the basis, very close to the foundations of the states of Karaqoyunlu and Aqqoyunlu. "The ruling power relied on the Turkic tribes from the highlands between Iran and Anatolia" (30; 768)… It is also known that Ismail considered Eastern Anatolia to be his legal possession, the legacy of the Aqqoyunlu state, and the Qyzylbash tribes of those places were subjects of the Safavids since the time of his

[2] See more: Abbaslı, Mirza. “Safevilerin Kökenine dair”. *Belleten*, C.XL, Ankara, 1976, s. 294-296.

[3] The word qyzylbash got its name from the red caps worn by the murids of the Safavids. See: Hinz W. Uzun Hasan ve Şeyx Güneyd. Tercümeçi Tevfik Biyiklıoglu. Ankara, 1948, c.5-18.

[4] Concerning these tribes, R. Tupper noted: “... In 1500 Ismail returned [from Gilan to Ardebil - N.A.] at the age of 13 with adherents from the tribes Qajar, Karamanlu, Khynyshlu, Kypchak, Shamlu and Avshar. Then he left Ardabil again ... In Erzinjan he united with the Sufi horsemen from the tribes of Ustajlu, Shamlu, Rumlu, Tekellu, Zulkadar, Afshar, Qajar and Varsag ". See: Tapper R. *Black Sheep, White Sheep and Red-heads*. Iran, V. 4. Published by British Institute of Persian Studies, 1966, c.63.

[5] This is very large period that is out of the frames of the article. See about it: Akhundova N.F. “The Safavid fraternity: shiism or sufism? Historiographical review of the Western European researchers' works”. *Orientalistica*. 2020; 3(3):765-780 (In Russ.) https://doi.org/10.31696/2618-7043-2020-3-3-765-780

ancestors. The maternal grandfather of Shah Ismail was Hasan padishah (or Uzun Hasan) Aqqoyunlu, and the paternal grandfather was Sheikh Juneyd Safavi (1447-1456). Ismail's grandfather, Sheikh Juneyd was married to Uzun Hasan's sister, Khatija Begim, and Ismail's father, Sheikh Haydar, was married to Uzun Hasan's daughter Alemshah Begim [6] (also Marta or Khalima).

In the early period of its history, the Aqqoyunlu confederation was a beylik centered in Diyarbakir, and the Sufi influence was especially strong here. Anonymous Venetian merchant talks about the influence of Ismail Safavi's father, Sheikh Haydar (1456-1488)[7] in Anatolia and Karaman[8]: A representative of the court rank by the name of Secaidar [Haydar - NA], from a religion or sect called Sophi [Sufi - NA], to whom his fellow believers obeyed as the main one and who was revered as a saint ... In various parts of“ Persia ” - in Natolia [Anatolia], Caramania [Karaman] - masses of adherents sang Secaidar [Haydar], a native of Ardouil [Ardabil], where he attracted many to the Safavid doctrine ... He had 6 children ... from the daughter of Assambei [daughter of Uzun Hasan - N. A.] (A Narrative 200-206).

When young Ismail, the son of Haydar, ascended the throne, he considered himself the rightful heir of Uzun Hasan. Initially, he raised the banner of the struggle for *padishah-e* Azerbaijan (33; 27) and was crowned in Tabriz in 1501. Only in 1503 Shah Ismail was forced to move south against Murad Aqqoyunlu, thereby entering the territory of Iran. Iranian historian Nasrullah Falsafi wrote: “... From his mother's side he [Ismail - N.A.] was the grandson of Hasan-beg Turkman Aqqoyunlu and rightfully considered himself the legal heir of this dynasty ... His adherents, as is known from all stories of the period, were also in mainly from the Turkman and Tatars tribes…. He subdued the indigenous population of Iran and made them subservient to the Turkman-born Qyzylbash tribes ... He made the Turkic language the official language of the Iranian court. Even he himself wrote poetry in the Turkic language ... " (24; 50-51). This opinion is confirmed by the researcher G. Roemer: "Ismail considered himself the legal heir of his grandfather Uzun Hasan Aqqoyunlu" (16; 213). Edward G.Browne, highlighting the tense relationship between the Ottoman Sultan Selim Yavuz and the Safavid Shah Ismail I, pointed out that Sultan Selim in the military correspondence of April 1514 personifies himself with the legendary Persian kings Firuddin, Khosrov, Dariymil, while the legendary ruler of Turan Afrasiab... Demonstrating his excellent poetic talent, the Sultan wrote the *divans* in Farsi, “while Ismail, acting under the pseudonym Khatai, composed his poems in the Turkic language” (Browne 14-20). The widespread use of the Azerbaijani-Turkic language by the Safavid dynasty and its court until the end of the 17th century. confirmed by a number of European travelers and diplomats (Raphael du Mans, Kempfer, Michele Membre, Pietro della Valle, Adam Olearius, etc.) [9]. Even in European archives one can find diplomatic letters from different periods sent by the Safavid shahs in the Turkic language: Letter from Abbas I to Sigismund III (1624) and Letter from Safi I to Sigismund III (1629) [10], Letter of Safi I to Ferdinand II Habsburg (1629/30) [11], Letter of the Shah Sultan Hussein (1694-1722) to the Duke of Saxon and King of Poland Frederic Auguste (presumably, 1697) [12], Letter of Shah Suleiman to the Venetian Doge Domenico Contarini II (1673) (37; Documento LVII) and others.

Thus, Shah and Sheikh Ismail Safavi founded a dynasty that was as close as possible linguistically and ethnically to the Aqqoyunlu dynasty. There remained the question of religious differences between the Shi'ism of the Safavids and the Sunni Aqqoyunlu, which, by the way, did not interfere with the conclusion of marriage alliances and close communication

[6] Full information about the genealogy of Aqqoyunlu is presented in the work of the court historian of Uzun Hasan Tihrani. See: Tehrani Əbu Bəkr. *Kitabi-i Diyarbəkriyyə* (Həsən bəy Ağqounlunun, onun səfərlərinin tarixi və Qaraqoyunlu və Cağatay tarixlərindən ona aid olanlar). Fars dilindən tərcümə edən R.Şükürova. Bakı: Elm, 1998.

[7] Haydar Sefevi is the son of Sheikh Juneyd Sefevi. Many scholars associate the beginning of the Shiite direction of the dynasty with his name. He urged his adherents to abandon the Turkman caps (*təqiya-i-Turkmanı*) and put on instead of them bloody hats in 12 wedges (*Taj-i-duüazda tark*), hence the name red-headed (Qyzylbaş - in Turkic, Surkh-sar - in -Persian). "They [Qyzylbashs - NA] wear red caftans, and on top are high cone-shaped turbans with a dozen folds, personifying 12 symbols of their sect or 12 descendants from Ali". See: *A Narrative Italian travels in Persia in the fifteenth and sixteenth centuries*. London: Hakluyt Society, 1873, pp.200-206.

[8] Beylik Karamanids existed longer than all other Anatolian beyliks and was finally absorbed by the Ottomans in 1487. The Karamanids resisted Ottoman growth, forming alliances with Venice, the Holy Roman Empire and popes in the west, as well as with Aqqoyunlu (1340-1514) and the Mamluk sultanate in the East.

[9] See more: Floor, Willem, and Javadi Hasan. “The Role of Azerbaijani Turkish in Safavid Iran”. *Iranian Studies*, Universuty of California, Berkeley, Vol.46 (4), July 2013, pp. 25-35. DOI: 10.1080/00210862.2013.784516

[10] Archiwum Główne Akt Dawnych. Found #3 – Crown Archives in Warsaw. Part 80/III – Persian (1607-1712). Doc. 4 and 5.

[11] Haus -, Hof - und Staatsarchİv, Turcica

[12] Sachsisches Hauptstaataarchiv, Dresden. See also: Lajos, Fekete. “Iran şahlarının iki türkçe mektubu”. *Türkiyat Mecmuası* 5 (1936), s.271.

between representatives of the two dynasties. As for the Sufi foundations of the Safavid dynasty, they were not perceived as hostile by Aqqoyunlu, as, for example, by the Ottoman sultans. In his letters to Shah Ismail, Sultan Selim used the title Sufi as a derogatory and insulting form of Sufi U(O)ğlı [Sufi son][13].

Unlike the Ottomans, in Europe the title of Sufi was applied to the Safavid shahs in a positive sense and quite often. Why were European travelers, diplomats and even monarchs so fond of assigning the title of Sufi to the names of the Safavid shahs? And how closely did they connect Ismail Sufi with Uzun Hasan?

Uzun Hasan as the most popular monarch of the East in medieval Europe

Ismail's maternal grandfather Uzun Hasan at one time continued and developed two family links - with the Komnenos dynasty in Trebizond and the Safavid Sufi dynasty in South Azerbaijan (which we discussed above).

The Aqqoyunlu dynasty had long-standing ties with the Komnenos dynasty. Back in the 40s. 14th century. the frequent raids of the Aqqoyunlu confederation on Trebizond provided Byzantine chroniclers with ample material for descriptions. Thus, Ali-beg is mentioned, the head of the "Amid Turks" under Il-khan Gazan (1295-1304), under whose command in 1348 his troops reappear at the walls of Trebizond. Although Ali-beg's attempt fails, and the city fails to be taken, nevertheless, young John Komnenos (Alexios III), apparently, was so worried that he made an important political decision to betrothal his sister Maria Despina to Ali-beg's son Fakhr ad -din Kutluk beg (17; 57-60). In 1352, as a result of this marriage, the founder of the Aqqoyunlu dynasty, Kara Yoluk Osman beg, was born. Subsequently, he also marries the Trebizond princess. Uzun Hasan did not violate this tradition, having entered into a marriage in 863/1458 with the daughter of Kalo Ioann Katarina, better known as Despina Khatun among the European chroniclers. The father of Uzun Hasan - the son of Osman Kara Yoluk - Ali beg was the only exception to this list. Unlike his predecessors, he chose as his wife a representative of the also noble but Turkic clan Bayandurlu [14] - the famous Sarah Khatun (according to Abu Bekr Tihrani, Saray Khatun). Subsequently, she was destined to take her firm place in the development of diplomatic relations of the dynasty.

So Uzun Hasan followed the tradition of his home by marrying Princess Katarina, daughter of the Emperor of Trebizond Kahlo John.

Very soon Uzun Hasan achieved unprecedented successes, inflicting a crushing defeat on Jahan Shah Karaqoyunlu in 1468 [15] and Abu Said Timurid in 1469. News of the amazing rise of Uzun Hasan spread not only among his closest neighbors, but also among the Western powers. The latter had high hopes for the winner. On the one hand, another force, alternative to the Ottomans, appeared in the East, on the other - it was a Muslim dynasty, tied by close ties with the Trebizond kingdom. Even before the rise of Uzun Hasan, beylik Aqqoyunlu had already interacted with European countries. For example, Hungary became one of the first European countries that established relations with Aqqoyunlu during the time of Uzun Hasan's grandfather, Osman Kara Yoluk, and, therefore, long before the conquest of Constantinople by Sultan Mehmed II [16]. In 1454, after the conquest of Constantinople (1453), Venice, fearing a threat to its interests in the Eastern Mediterranean, sent a mission to Tabriz. Since then, the idea of a West-Eastern anti-Turkish bloc has arisen and changed supporters many times. Gradually Venice took on the role of the main representative of the West.

As for Uzun Hasan, his military and diplomatic victories, he became one of the most revered and popular monarchs in the European countries of his era. This can be seen in the annals of the Krakow canon and historian Jan Dlugosz (1415-1480) "Annales seu cronicae incliti Regni Poloniae" [17].

[13] The Sultan's court perceived Sufi doctrine as heresy. See further in the materials of the Venetian archives.

[14] According to F. Sümer, Sarah Khatun was the daughter of Pir Ali Bayandur (son of Fakhr ad-Din Kutluk-bek and brother of Kara Yoluk - N.A.). See: Sümer F. *Aqqoyunlular*. İstanbul, 2 cildin II-ci c.,1989, p.272. Earlier one more version was put forward by the German orientalist F.Babinger (1891-1967), that Sarah Khatun was a native of the Aramaic Christians of Diyarbakir. See: Babinger F. *Mehmed the Conqueror and his time*. Translated by R.Manheim. Princeton, 1978, p.192.

[15] With this victory, the territory of Beylik Aqqoyunlu unites with the entire territory previously ruled by the Karaqoyunlu dynasty, and the centuries-old center of South Azerbaijan, Tabriz, becomes the capital of the state. For more than two centuries it served as the permanent capital and center of government of the Hulaguids, Jalairids and Karaqoyunlu states.

[16] See more: L.Tardy. *Beyond the Ottoman Empire. (14-th – 16-th century Hungarian Diplomacy in the East)*. Szeged, 1978, p.169.

[17] We used for the research: The copy of the chronicle by Jan Długosz, rewritten by an unknown author in Latin.1909 (Biblioteka Czartoryskich); *Jana Długosza Roczniki czyli Kroniki sławnego Królestwa Polskiego*. Ks. 10, 11, 1406-1412 / [kom. red. Stanisław Gawęda i in.; oprac. tekstu łac. Danuta Turkowska, Maria Kowalczyk; przekł. na jęz. pol. Julia Mrukówna; red. i koment. Józef

There are 5 documents in Latin covering the events related to Hasan Padishah from 1472 to 1475 among Dlugosz's reports. Before the appearance of the Aqqoyunlu envoys in the Polish court, Polish Chancellor Jakub of Debno in 1471 sent an embassy to Pope Paul II, met with the envoy of Uzun Hasan in Venice, and they traveled together to Rome to persuade the Pope to form an anti-Ottoman league (Jaskowski 66-67). In total, the messengers of Uzun Hasan visited the court of the Polish king Casimir IV Jagiellon for times: in 1472, 1474, 1475, 1477. This is how the chronicler described the events around Uzun Hasan:

“... a Turkish sultan named Usun Hasan (who descended from a person of an unknown clan, unknown even to himself [18], and became an excellent hero, winning one victory after another with little strength, conquered many countries) and opposed sultan and his son Mahmut [Mustafa - the son of Mehmed II - N.A.][19] (he was afraid to engage in open battle, so that in case of failure his reputation would not suffer) and inflicted a heavy defeat on him. And the son of the Sultan and the Sultan Muhammad himself, in order to rectify his complete and shameful defeat, collecting more troops, again moved with 400,000 cavalry and a large number of infantry against Usun Hasan ... " (36; 879-881. 23; 302-303).

Indeed, at the very first clash of the two sides on August 1, 1473, which took place in a place between Erzinjan and Tarjan (Malatya), the troops of Uzun Hasan won [20]. However, Uzun Hasan did not agree to the terms of the proposed peace. In the decisive battle, in which both rulers participated, 16 Rabi I 878/11 August 1473, near the village of Bashkent in Otlukbeli, the Ottomans won the victory, and every detail of this battle was described in detail in the victory document of Mehmed II (2; 285-322).

Most modern research confirms Dlugosz's information that Uzun Hasan was the initiator of the second battle:

“... Usun Hasan, famous for his numerous victories, with the support and at the request of his wife Catherine [21], daughter of the Trebizond Emperor [22], about nine o'clock began a battle in the homeland of the Turks ... near the Euphrates River, not far from the city of Harsursan, with the Turkish Sultan Muhammad for the benefit and protection of Christians ... " (23; 327).

As we can see, the author pinned great hopes on Hasan Padishah in saving Christian countries from the Ottoman threat, speaking about him with great admiration. Moreover, in the next document, Dlugosz reports on “a secret message from the padishah to Kazimierz, delivered by Catarino Zeno”. From the note of the Venetian notary Konstantino de Sarra, it becomes clear that on the instructions of Uzun Hasan, Zeno went to Europe to negotiate with Pope Sixtus IV, German Emperor Frederick Habsburg, Neopolitan King Ferdinand, Polish king Kazimierz IV, Hungarian King Matthias Hunjandi and Doge of Venice Nicolo Trono as Ambassador from Aqqoyunlu (37; 137).

The main purpose of this message to Poland was to persuade the King of Poland Kazimierz "to rise up in early spring together with other kings and Catholic princes against the Turkish Sultan Mohammed" [23]:

“... He also had a top secret letter [message – N.A.] to King Kazimierz ... Emperor Usun Hasan - says - two very beautiful daughters, born of the daughter of Emperor Trebizond Catherine [24]; Usun Hasan proposes that the eldest of them, but must have been baptized before, be given in marriage to your son… » (23; 342-343).

That is, the author emphasizes Hasan Padishah's readiness to conclude not only military, but also marriage alliances with Christian countries, while

Garbacik, Krystyna Pieradzka]. Warszawa: Wydaw. Naukowe PWN, 2009.

[18]According to this information, the ancestor of Hasan padishah was the head of the tribal confederation of Turks Amid, Tur Ali bek. In addition, 845/(1470/71) by the court historian of Akkoyunlu Abu Bekr Tihrani completed a book in honor of Uzun Hasan, where, among other things, the genealogical table of the dynasty was placed.See: Ebu Bekr-I Tihrani. *Kitab-i Diyarbekriyye*. Çeviren Mürsel Öztürk. – 1.bsk.- Ankara: Türk Tarix Kurumu, 2014, s. XI.// https://www.academia.edu/20273176/Ebu_Bekr_i_Tihrani_Kitab_%C4%B1_Diyarbekriyye?auto=download

[19] Most probably he was Mustafa, the second son of Mehmed II, who died in 1473 (Babinger 331).

[20] Uzun Hasan did not agree to the peace proposed by Mehmed II.

[21] Many sources indicate that Uzun Hasan succumbed to the persuasion of his entourage, especially Despina Khatun (12; 314).

[22] Ioan IV Komnenus, penultimate emperor of the Trebizond Empire 1428-1458, from 1456 subject of the Ottoman Port, died 1458 (13; 331-332).

[23] The author notes with regret that King Kazimierz responds to the envoy of the padishah Caterino Zeno with a refusal. In fact, Dlugosz did not sympathize with the “foreign Lithuanian Jagiellonian dynasty”. See: “Ян. Длугош. Анналы или Хроники Славного королевства Польши”. Вступительная статья. *Библиотека Восточная Литература*./Текст воспроизведён по изданию «Древняя Русь в *Польской истории* Яна Длугоша» (Кн. 1-4.). Москва, 2004 // http://www.vostlit.info/Texts/rus5/Dlugos_3/vved1.phtml?id=7543

[24] As mentioned above, one of their daughters Alemshah Begim was married to Sheikh Haydar Safavi and will become the mother of the future ruler, Shah Ismail I.

not forcing them to convert to the Islamic faith.

All this, of course, elevated Uzun Hasan Aqqoyunlu in the eyes of the Christian world.

Application of the title Great Sophie to the Safavid shahs in the Venetian accounts

Venice was the main representative of Europe in negotiations with Aqqoyunlu on the creation of an anti-Ottoman alliance. A preliminary agreement in 1458 was secured by the new Venice-Aqqoyunlu alliance in 1464, which culminated in a mission led by Caterino Zeno. In the early 70s. of the 15th century Zeno headed to Tabriz and had did not returned to Venice for several years. Being personally acquainted with the East and even akin to Uzun Hasan through his wife Despina Khatun, he was the best candidate for this mission. Despite the temporary deterioration of relations between Venice and Uzun Hasan in 1473, nevertheless, the authority of the padishah Aqqoyunlu in the republic has always remained great. Therefore, when in 1501 young Ismail declared himself shah and heir to his grandfather Uzun Hasan Aqqoyunlu, this news was greeted by the republic with great enthusiasm. On the one hand, there is the promising power of the newly established dynasty in the territory of the Azerbaijan region after a prolonged period of weakening of Aqqoyunlu after the death of Uzun Hasan (1478), on the other, a possible deterrent for the Ottoman Empire. Moreover, even before the young Safavid shah came to the throne, the Venetian legates had already shown interest in the Safavid sheikhs and maintained contacts with them.

The archival materials of the Venetian Senate show that throughout the entire period of Aqqoyunlu's rule after the death of Uzun Hasan and before the appearance of the Sufi leader Shah Ismail I on the political arena, Venice, worried about the unstable situation in the state, did not lose sight of a single event that took place in that region. Ambrogio Contarini, Giosafat Barbaro, and other Venetian legates stayed there for a long time, got acquainted with the life of the court, then returned to Venice, providing a full account of what they saw and heard in that country before the Senoria. Many of these reports are preserved in the archival materials of the Venetian Senate [25].

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Thus, in 1478 the Venetian secretary Giovanni Dario was sent to Porto to negotiate peace. In 1485, he was also authorized to go to Aqqoyunlu to receive news about "the state of this kingdom, upset after the death of Uzun Hasan, and about the possibility of a general recovery." However, among the reports of Giovanni Dario, there is no information about the situation of Aqqoyunlu and the Safavids.

According to Guglielmo Berchet, when "the valiant Ismail, the head of the sect of believers in Ali, known as the Sufi [صوفی]" began to rise the Venetian Senate, through its representatives in the east, sought every specific information about his origins, strength and progress. It even tried to renew an alliance with him and with Prince Karaman[26], “breaking the peace with Turkey in 1494 [Another war with Turkey went on in 1499-1503 – N.A.]" (Berchet 23).

A gentleman from Constantinople, who lives in Cyprus and a Venetian subject, Constantino Lascari, sent to Persia for this purpose, read in the Senate on his return to Venice in 1502 a valuable account of the Sufis (Berchet Documento XIX - XX. Taken from Sanudo's diary).

The legate also reports that at first he went to

[25] These reports, as well as some excerpts from the essay of the famous Italian chronicler Marino Sanudo, were collected by the Italian historian Guglielmo Berchet "La Repubblica di Venezia e la Persia" in one collection and published by him in Turin in 1865. Since 2010, the collection Bershet has been included in electronic use.

[26] In 868/1464, after the death of Karamanid Ibrahim, his eldest son Iskhak Nuri Sophi was expelled by his brother Pir Ahmed and sought protection from his father's old friend Uzun Hasan. This request was granted, and thanks to the Turkmans, he was able to restore his throne. But for Mehmed II, Karaman was also very important and by autumn he restored the former status quo in Konya. At the same time, Uzun Hasan did not prevent the Sultan from restoring the rule of Pir Ahmed. See: The Cambridge History of Iran. Vol. VI.

In this letter of Laskari, “Mr. Karaman” refers to the Karaman prince Mustafa-bey - the grandson of the former ruler of Karaman Ibrahim-bek and the son of Nuri Sophi, who, after Karaman's annexation to Turkey, found refuge in the Aqqoyunlu palace. Taking advantage of the Venetian-Turkish war of 1494-1502, Mustafa-beg returned to Karaman and temporarily seized power there. However, in the future, not receiving support from Venice and the Safavids, he was unable to resist the Turkish army (J. Mahmudov, Взаимоотношения государств Аккоюнлу и Сефевидов с западно-европейскими странами. Баку, 1991; 121).

Azerbaijan together with the Karaman prince to ask Shah Ismail for help. He further writes that after the meeting, "Mr. Karaman together with his people set out on a journey and, together with Mr. Sufi, rode towards Turkey for three days."

From the content of the Document XIX shows that Laskari tried to get as much information as possible about everything that concerned Signor Sophi [Sufi - N.A.] - about his family, religion, social status, etc. Lascari reports: “Senor Sophi [Sufi – N.A.] ... has a lot of wealth [perhaps influence – N.A.] ... he is a successful man between the ages of 20 and 22, in Tauris [Tabriz – N.A.] he has one descendant of 11-12 years old and a sister, whom he promised to marry [per mojer - in the text] to Signor Karaman. " In this case, most likely, it was about the father of Shah Ismail - Sheikh Haydar Safavi (1459-1488), since at that time Ismail was still too young to have children. Ismail Ali's brother was killed already in 899/1494 by order of Sultan Rustam Aqqoyunlu (25; 210). Sheikh Haydar himself died at the age of 29. He was killed by the combined forces of Sultan Yaqub Aqqoyunlu and Shirvanshah Farrukh Yasar (1465-1500)[27].

Laskari's report clearly proves that before seizing power in Azerbaijan, the Safavids, in order to increase the number of their supporters and weaken the Ottoman Empire, took an active part in the events taking place in Turkey, including Karaman.

Laskari's comments on the Safavid religious beliefs are very interesting: “... Signor Sophie is very improved in his sect, which in its own way is something like a Catholic religion ... unlike the supporters of Omar [meaning the righteous caliph Umar ibn al-Khattab (644- 656)] a disciple of his prophet Mohammed, Sophie adhered to the position of Ali, another disciple of the prophet. In expressing their faith, they [the Sufis - N.A.] were dissidents (apostate dissenting), just as in the time of St. Peter and other pontiffs there were Aryans who, although they were Christians, were at the same time heretics… Their [Safavid – N.A.] interests were contrary to the interests of the Ottoman house, which regarded the Sufis as heretics of the Mohammedan faith [Macometana]. " In other words, the Venetian legates, emphasizing the strong devotion of the Sufis to their doctrine and, at the same time, perceived the religious beliefs of the Sufis of the Safaviye order as something antagonistic to the orthodox Sunnism of the Ottomans [even though the author did not have a clear idea of the difference between Sufism and Shiism].

So the Venetian, and after them some other European sources, secured the title of Senor Sufi for the Safavid shahs. In this document, the appeal Senor Sophie is used 11 times. This trend was observed in the future. For example, in the next document of the same 1502 [37; Documento XX], despite its very short length, the title Senor Sufi is used 6 times. It is from this document that Laskari's famous dictum is taken: “... A lot of people ask, is Sophia really a prophet and a man capable of performing miracles? My answer to these people is this: this gentleman is an ordinary person ... It is also quite true that he is confident in his greatness and holiness. " Further, the legate confirms: “... It is known that this religion de Sophi in every epoch waged a war against the Ottomans on the side of Trebizond - a land where they have castles and several cities of no great importance ... This signor Sophi was born in the family of Uzun Hasan where, thanks to this origin, he became master in "Persia"" (Ibid).

According to a copy of a letter from Signor Sophie sent to His Serene Highness Prince Leonardo Loredano to the Doge of Venice, received at Zener in 1505 [37; Documento XXI], Ismail also called himself Sufi [Ismail Sophi].

In a copy of the "extensive letter of sir Donado da Leze" on September 14, 1514 (*Copia de una lettera copiosa, scritta per ser Sonado da Leze q. Ser Priamo da Padova, a dì 14 settembre 1514*), the Safavid country and their ruler are repeatedly referred to as Sufis [37; Documento LXXX].

Even after more than half a century, in the address of the Council of Ten to Vincenzio Alessandri (1570), one can again see the use of the title Sophi to the son of Ismail I, Shah Tahmasib I: “Vincenzo! Sperando noi ricever da te ottimo servitio, per l'esperienza che hai delle cose turchesche e delli dispareri che sono tra il sig. Turco et il signor Sophì ... [Trans.: Vincenzo! I hope that we will receive excellent service from you, thanks to your experience in [studying - NA] Turkish affairs and the friction that exists between Senor Turk and Signor Sophie ...] ” [37; Documento XXIII].

Describing the situation during the reign of the Safavid Shah Abbas, Guillermo Bershe notes that on June 1, 1600, the Safavid envoy Efet beg came to the court of the Council of Ten. He transmitted several sentences, which were translated by dragomanno Giacomo Nores. They meant the goodwill of the *Sufis* in relation to the republic, whose name was not only loved, but also greatly revered in the Safavid state.… (37; 44).

In fact, during the reign of Tahmasib I, Sufi traditions were not as strong as during the reign of Shah Ismail. Nevertheless, they were preserved and observed after the reign of Tahmasib. This is evidenced by the use of Sufi rituals during the

[27] In 1465, Farrukh Yasar was killed by Ismail in revenge for his father (25; 211).

coronation ceremonies of the Safavid shahs, at least until the middle of the 17th century[28].

Conclusion

So, the Safaviye order is a vivid example of the transformation of the dynasty of Sufi sheikhs into a dynasty of ruling shahs. As shahs, the Safavid rulers continued to preserve Sufi traditions for a long time. The main reasons for this successful transformation were as follows. First, the Sufi order of the Safaviye was born during the reign of the Mongol dynasty of the Hulaguids in Azerbaijan, who, due to the mixed nature of their religious views, honored and encouraged the Sufi elders. Over time, the Safaviye Order, expanding the area of its adherents, became significantly politicized. Thus, due to its size and influence, in the first half of the 15th century. it has long gone beyond spiritual brotherhood and, from the time of the spiritual leadership of Sheikhs Juneyd and Khaidar, according to the chronicle of Fazlullah ibn Ruzbihan Khunji “Tarikh-i alam-ara-yi Amini”, he became heavily militarized. The Sufi system of relations "murshid and murid" in the Safaviye order was clearly demonstrated in all battle scenes from the history of the Safavid dynasty (29; 94-95). Moreover, the transition of leadership in the order according to the system from father to son also played an important role in this transformation. These were the main stages in the evolution of this order into political power. Thanks to the political skill of the young Sheikh Ismail, the Safavid leaders also secured external support from Europe.

The foreign policy of the Safavids was determined by the position of the Ottoman Empire in the international arena. The Ottomans, in turn, perceived Safavid Sufism, as well as Shiism, as heresy. It was this fact that greatly impressed Europe, which perceived the title of Sufi as something antagonistic to the Ottomans. Moreover, the positive perception of the title of Sufis is also explained by the simple reason that the Safavids themselves proudly called themselves Sufis. This is confirmed by French and Italian travelers, as well as by the materials of the Venetian archives discussed above. At the same time, Sheikh Ismail's announcement of himself as the heir and successor of the European favorite Uzun Hasan Aqqoyunlu determined Ismail's success in the European courts. Young Ismail tried to adopt all the traditions of his grandfather Aqqoyunlu, even in the capital. He could declare himself Shah in Ardabil, and perhaps even declare Ardabil the capital of the new state, where he would also feel at ease. After all, it was this territory that was the main focus of the origin and justification of Safaviye and his predecessors [29]. However, he chose Tabriz as the capital - the capital of Aqqoyunlu and other dynasties that preceded it.

In turn, European countries needed a political force alternative to the Ottomans. Venice at that time was the closest collaborator of Aqqoyunlu and Safavids. Therefore, she was most closely acquainted with the socio-political situation within the region. She was not at all satisfied with the weakened position of Aqqoyunlu after the death of Uzun Hasan. The emergence of a new political force in the person of "exotic" sheikhs, opposed to both the Ottomans and Aqqoyunlu, suited the Venetians very much. Putting great hopes on the Safavids, the Europeans, represented by the Venetians, embraced the title of Sufi with enthusiasm and cordiality, as something new and strong. All these moments in aggregate ensured the success of the transformation of the Sufi sheikhs into ruling shahs, and in some sources even secured the title of Sophie to them.

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[28] See more: S. Blake, “Time in early modern Islam”. Chapter I. *Calendar, Ceremony, and Chronology in the Safavid, Mughal and Ottoman Empires*. Cambridge University Press, 2013, p. 26.

[29] Suffice it to cite as an example a few tombs of the Sufi leaders of the Sefewiye, that are now on the territory of the modern Republic of Azerbaijan: the tomb of Shaikh Sayyid Jamal ad-din Tabrizi (12th century) in Penser village in Lenkoran region; the mausoleum in honor of Shaikh Ibrahim Taj ad-din Zahid Gilani **(**12th century) in the village of Shikhakeran in the Lenkaran region; the mausoleum in honor of Shaikh Juneyd (15th century) in Hazra village, Gusar region and others could be served the certain example for it.

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Carpet weaving traditions in the mountain areas of the south-eastern region of Azerbaijan

Nazilya Adil GUSEYNOVA
Western Caspian University
Doctor of Philosophy in Art History
e-mail: gorjetka86@gmail.com

Abstract
The article describes the history of carpet weaving traditions of the population, who live in the mountain villages of the southeastern region of Azerbaijan and the main characteristics of the carpets. Here are examples showing the unique use of composition or elements typical of classical Azerbaijani carpets by local carpet makers. The author notes that since the 19th century, sheep breeding has occupied a leading position in the economy of the peoples living in the mountainous and foothill areas of Lerik, and accordingly, carpet weaving is one of the main occupations of local women. Among other things, the article emphasizes that local weavers directly use natural dyes and are personally involved in dyeing wool. The author also mentions that under the influence of various socio-economic changes, the art of carpet weaving in the southeastern region has partially weakened.
Key words: Lerik, Talysh-Mugan culture, remote mountain villages, carpet weaving art, local weaving traditions, natural dyes.

Azerbaijan has always been in the spotlight due to its centuries-old history, rich material and cultural heritage. The invaluable contributions of historians, ethnographers, archaeologists and art historians in the further study of our rich cultural heritage are invaluable.

Various historical and ethnographic regions of Azerbaijan differ fundamentally from each other in their location, population, occupations and crafts. In this regard, the unique culture and traditions of the Lankaran-Astara region are of interest.

The population of the Lankaran-Astara region, located in the southeast of Azerbaijan, consists of Azerbaijanis and Talysh people by ethnicity. As in other regions with different ethnic composition, natural and geographical conditions, socio-economic environment, trade and cultural ties have determined the formation of common aspects in the life and culture of the peoples living here. The local population living in the region is divided into two parts by way of life - those who live in the mountains and those who live on the plain. The inhabitants of the mountain villages are engaged in cattle breeding, while those living in the plains are engaged in agriculture and fishing.

The Talysh-Mugan culture plays an important role in the study of the Lankaran-Astara region. The Talysh-Mugan culture, which covers the late Bronze and early Iron Ages, reflects the last stage of the tribal structure that existed in the territory of Azerbaijan.

The Talish carpets are part of the Gabriel group of the Karabakh school. Although there are villages called Talish in eight regions of Azerbaijan, the carpet takes its name from the large area along the Caspian coast, along the Talysh Mountains.

As a rule, Talish carpets were woven in a small and elongated shape. Although the number of loops in these carpets, which are slightly darker depending on the color scheme, varies, the pile is shorter than that of other carpets belonging to the Karabakh group.

Ralf Kaffel in his book "Caucasian Prayers" described the Talysh carpets as follows: "... Lankaran and Talysh are located on the western coast of the Caspian Sea, in the south of the Caucasus. In the region, the Azerbaijanis live together with the Talysh (who speak their own, different language) in the southern part of the region around Lankaran. Some of the rare, original and beautiful Caucasian carpets are woven here. Secular Talysh carpets are easily recognized by their “met-hane” (simple) sections, characteristic rosettes and box rose borders, and box rose insets and protective borders. Indigo pastilles are most common, with red and green pastilles being less common. Striped and

patterned carpets are also available. Lankaran carpets are also distinguished by their characteristic medallions, which are geometric abstractions of dragon shapes. Both types are usually long and narrow. According to Peter Stone’s research, Mugan carpets, woven in western and northwestern Talysh, are the rarest of all Caucasian carpets. Throughout the design are characteristic “Memling” flowers and a design described by “Bennett” as a medallion with raised stripes. All three types were delicately woven and used more cotton weft than the weaving of the South-West region. [8, p.119]

If we take into account that the local population is moving to big cities as a result of various socio-economic changes in our time, we can see that the art of carpet weaving in the southeastern region has partially weakened.

One of the main characteristics of the carpets woven in the southeastern region is that these carpets are woven in an elongated shape in accordance with the interior of houses built in the local architectural style. The compositions or elements characteristic of classical Azerbaijani carpets were used in a unique way in the artistic design of the carpets woven in the southeastern zone. Another aspect that characterizes the carpets woven in the southern region is that the smooth surface of the intermediate zone of these carpets is composed without the use of any motifs or composition created using a small number of decorative elements.

Written sources of the 19th century note that the development of carpet weaving is directly related to the development of livestock farming, especially sheep breeding. In the economy of the population living in the mountainous and foothill areas of Lerik, sheep breeding took a leading position. For this reason, the population living here was engaged in weaving.

K.Khatisov, who studied crafts in Transcaucasia, mentioned the name of Lankaran along with the Guba, Baku, Shamakhi, Geychay, Gazakh, Shusha, Jebrail, Zangezur regions, which were engaged in carpet weaving at the end of the 19th century. The author noted that carpet weaving plays an important role in the economic life of the people living here.

A D.A. Kistenyev in his article “Handicraft production areas in Lankaran district and additional income of villagers” notes that at the end of the 19th century, carpets woven in Lankaran district were eagerly bought by carpet traders from Baku and Shemakha. The author also notes that in 1889 in Tbilisi at the “Caucasian exhibition of agricultural and industrial products” Lankaran carpets were exhibited along with carpets from Guba and Karabakh [14].

The art of carpet weaving is more widespread in the Zuvand, Oranda, Piran, Drigha zones of Lerik. In these zones there were villages engaged in carpet weaving. Thus, villages such as Pirasora, Shonachola, Razgov, Rvarud, Chairud, Veri, Siov, Hamarat, Drik, Shingdulan, Mulalan, Zenonu, Khanega, Kurdesar, Kiravud, Nuku, Soru, Vistan, Larmarud Piran were famous throughout the region. for their carpets [14].

During the research work, when we got acquainted with the carpets woven in the Lerik region, we found that almost all of them date back to the period after the 1950-1960s. The reason for this is that in 1951-1952, the population of the villages of Lerik bordering Iran was deported. The population of 22 villages of the district (in some sources 35 villages) was resettled to the present-day Bilasuvar and other districts of Mughan [15]. Part of the population displaced from their native lands in the 1950s returned to their villages in the late 1950s. Having improved their living conditions, women living in remote mountain villages again continue to weave carpets. Unfortunately, some changes are taking place in carpet production. This change is most clearly manifested in the compositional structure of the carpets. Thus, although local weavers adhered to a certain compositional structure when weaving carpets, they reflected on the carpets the artistry born of their imagination and made numerous additions or reductions to the artistic structure of the composition. Therefore, local weavers did not understand the essence of the ancient patterns, copying them on the carpets. Another difference is manifested in the color scheme of the carpets. Carpet makers, who previously used natural dyes directly, later began to give preference to chemical dyes.

In the 19th century, carpet weavers living in the villages of the Lankaran region also used the services of dyeing workshops. Thus, if the villagers themselves participated in dyeing woolen threads in black, yellow and red, they directly contacted the dye houses to purchase brown, blue and green threads [14]

In general, it should be noted that the weavers who lived in the villages were engaged in dyeing wool themselves. Local weavers widely used pomegranate peel, onion peel, walnut peel, rose hips, razdar (mahogany) bark, and mint to make dyes. For example, weavers obtained black from walnut shells, blue from watermelon, brown from rose hips, and red from razdar (mahogany). However, it should be emphasized that local carpet makers widely used not only natural dyes, but also chemical ones when dyeing wool and cotton threads.

The use of chemical dyes in the compositional structure of carpets, the presence of certain defects in their compositional structure, failure to achieve proportionality, etc. The factors arose as a result of

touching the carpet in a very short period of time due to climatic conditions. As is known, Lerik is a mountainous area and the winters here are very severe. Current climatic conditions and women's everyday concerns required the rapid preparation and use of carpets.

However, despite all this, the art of carpet weaving continued to develop in the Lerik region during this period. It can be said that carpet weavers worked in almost every house. Sometimes not one, but several carpet weavers lived in one house. Lerik carpet weavers used the compositional structure of Guba-Shirvan, Ganja-Gazakh, Karabakh carpets.

Almost all the women of the Agayev family living in Chayrud, a remote mountain village of Lerika, are still engaged in carpet weaving. Together with the eldest member of the family, Gulbadzhi Mirzaga kyzy Musayeva, born in 1939, her daughters Minaye Isgender kyzy Agayeva (born in 1961) and Yaroshik Isgender kyzy Agayeva (born in 1967) were engaged in the art of carpet weaving from a young age. The carpet hanging on the wall of the Agayev house was woven by sisters Minaye and Yaroshik in 1985 (Fig. 1). The carpet is 300x160 cm in size and is woven from cotton and wool threads. Looking at the compositional structure of the carpet, we see that this carpet is woven based on the composition of Guba "Alikhanly". Three lakes are depicted on the vertical axis in the intermediate zone of the carpet. The unfinished image of the lake and the elements of the "grape leaf" depicted in the upper part of the carpet represent infinity. Unlike the "Alikhanli" carpets, only the "leaf" element was used as a filler in the artistic design of this carpet. The color of the intermediate zone of the carpet is dark brown, which is typical for the backings of the "Talish" carpets. The leaf element is found in the "Pirabadil" and "Ugakh" carpets of Guba, "Khila-Afshan" of Baku, and "Goja" of Karabakh.

The middle part of the carpet is surrounded by three border belts. The reports depicted in the middle field are typical of the Shirvan "Maraza" carpets.

Another carpet, which belonged to the Agayev family, was woven in 1969 by Gulbachi Mirzaga gizi Musayeva. The carpet is woven using cotton and wool threads, its dimensions are 400x150 cm (Fig. 2). The intermediate zone of the carpet is based on a single lake composition. The carpet is similar in compositional structure to the Talysh carpets of Karabakh. If you pay attention to the general structure of the carpet composition, consisting of an intermediate area and a border belt, you can see that the proportionality expected in Azerbaijani carpets is violated. The intermediate zone of the carpet consists of four large lakes located one after another along a vertical axis. The edges of the lakes are depicted with jagged edges. In the central part of the lake there is a small medallion, and on both sides of the right and left parts of the lake there are images of "octagonal" elements. The "eight-pointed star" element is found in the carpets of Baku and Borchali. In the Gazakh carpets “Borchali” and “Kamerli”, along with the “octagonal” filler, another “hook” element is found in the middle zone.

The date of manufacture of the carpet is marked at the top of the intermediate area inside the kateb element - 1969. The painting of the lakes, which are the main element of the composition, in different colors gives it dynamism. One of the intermediate border belts of the carpet is called "kufi" and is most often used in Guba-Shirvan carpets. Local weavers call this element "Arabiya". Another border strip is found on Kazakh carpets. The use of the "tail" or "horn" element described here in carpets of Central Asian peoples indicates its antiquity. Local carpet weavers call the "horn" element "gocheshok". Translated from the Talysh language, it means "ram's horn". Chemical dyes were used to dye the threads of the carpet. It should be noted that chemical dyes were widely used in most local carpets of that time. The carpet, woven in 1986 by Tamara Mir Sayyad kyzy Gadzhieva (1957), a resident of the village of Chayrud, has an oblong shape and dimensions of 400x150 cm. Wool and cotton threads were used in weaving the carpet. The intermediate zone of the carpet is based on the composition of "a single lake". The artistic structure of the carpet consists of the arrangement of lakes of the same shape one after another along the vertical axis. These lakes are characteristic of the Borchali carpet and are called "Lambali" after the name of the place where it is woven. However, the main difference between the presented carpet and the Borchali carpets of classical composition is that its lakes are depicted in many different colors (Fig. 3). In the middle zone, only the "flower" pattern was used as a filler element on four sides of a small central lake. The area of the carpet is dark brown; the middle part is surrounded by three border belts. The rapports given in the middle border are typical for Ganja-Kazakh carpets. The background color of the chain border is the same as the color of the middle area. Although this oblong-shaped carpet does not have high artistic value, it preserves some elements of the traditional composition of classical Azerbaijani carpets.

The carpet, woven by Minaya Agayeva, a resident of the village of Chayrud, based on the composition of "double lake", dates back to 1987. The size of the carpet is 400x180 cm, it is made of wool and cotton (Fig. 4). Two lakes are located symmetrically in the horizontal direction in the intermediate zone of the carpet. Between these lakes, located on the right and left sides of the carpet along the vertical axis, there is a multi-colored "leaf"

element. The twelve medallions that make up the composition of the carpet are identical in shape, color and size. The inner part of the middle part of the carpet is made in cranberry color. The connections of the plant elements, given in the intermediate border strip surrounding the carpet, are usually depicted in a small size in the elbow border. This border is used in the Baku-Shirvan carpets. In another border belt, there is a border strip called "dangach", which means "flowing water". The intermediate section of the carpet woven by Minaya Agayeva in 1993 is based on a single lake composition. The carpet measures 410 x 155 cm and is woven from wool and cotton threads (Fig. 5).

In the dark brown area of the middle part of the carpet, along the vertical axis, 5 tongue lakes of the same size and shape are depicted. Jagged lakes are found in the "Gabala" carpets of the Shirvan group. Eight elements of the "grape leaf" of sugar color are symmetrically placed on the right and left banks of the lakes. The absence of other filler elements in the intermediate zone is one of the characteristic features of the "Talish" carpets. The middle territory is surrounded by a border strip called "kufi". In another border belt of relatively large size, floral elements called "apples" are given. The intermediate section of the carpet woven by Dilyara Gasanova, a resident of the village of Chayrud, is designed based on a double lake composition (Fig. 6). The carpet is woven from wool and cotton threads; its size is 410x160 cm. The lakes, symmetrically located along the horizontal axis in the brown soils of the intermediate section, have the same size and shape. It should be noted that in the southern region this lake is called a "saucer lake". Inside the diamond-shaped stepped lakes, the "tugbasi" element is depicted. In Karabakh, this element is called "salama", which means a chandelier, in Ganja - "gandil", and in Guba - "tugbashy" [12]. Local weavers call this element "Simavar rose". Thus, the pattern resembles a samovar in its shape. This element was used to decorate the intermediate zone of the "Gimil" and "Fakhrali" carpets.

In the ancient Turkic language, tug means flag. The ancient Turks glorified the people to whom it belonged. For this reason, the state was considered sacred by the Turks. In general, the concept of a flag is associated with the state beliefs of the ancient Turks. A nation that has a state must have a flag with a wolf's head. The ancient Turks had a tug consisting of four parts. A decorated tow pole, horse tails are tied to the top of the tug, the head of the tug, and a worm's head is placed on the head of the tug. The epics "Manas" and "Dede Gorgud" reflect moments showing the attitude of the ancient Turks to the flag. In his work "Oguzname" Rashiddin speaks of Tug as "Tug-i Mubarak" and mentions that the Turks consider it sacred. In ancient Turkish beliefs, the flag signifies the union of earth and sky and is considered inviolable [17]. The Tuguns, one of the most ancient ethnic groups of Central Asia, lived in the BC. Their name is mentioned in the cuneiform inscriptions of Urartu in the 8th century. Part of the Tughluses who settled in Karabakh created the estate of Tug. Even today, there are settlements in Azerbaijan called Tug.

Candidate of Philological Sciences Shakhlar Mamedov associated the term "tugbashi" with mythological images. The author emphasizes that in the Yardimli dialects there is a saying: "When Tug puts his head in the water, it rains." According to him, ancient people used the "tow head" to "call for rain" and get a bountiful harvest [18].

On the right and left sides of the intermediate section of the carpet, a diamond-shaped area was formed between the lakes located sequentially along the vertical axis. The "flower" element described in this section also has a diamond shape. These floral patterns, which are the only filler element in the intermediate zone of the carpet, uniquely complete the composition. The intermediate area is surrounded by two border belts. The compositional structure of the carpet, woven in 1976 by Sakina Salam kyzy Abdullaeva (1951), who lives in the village of Shonacholaya in the Lerik region, was probably created under the influence of the composition "Ancient Minaret" (Fig. 7). The carpet is woven from wool and cotton threads; its size is 350x150 cm. It should be noted that local weavers call the "octagonal" element inside the lake "almabuta". Thus, the pattern in its shape resembles a large open flower.

The carpet woven by Kinenaz Huseynova (died in 1990) in the 1940s and kept in the house of Vagif Gulhasan oglu Ismayilov is interesting for its compositional structure. It should be noted that woolen threads were used directly in the manufacture of the carpet measuring 350x150 cm (Fig. 8). The artistic structure of the carpet is based on the second version of the Kabistan carpet, which is part of the Shirvan group of carpets. However, in this carpet, unlike the classic Gabistan carpet, which is called "khonchali", the medallion in the middle is not whole, but divided into two parts. The lakes depicted inside the medallion are similar in structure to the lakes on the Kabistan carpet. The inner part of the medallion, where the lakes are located, is surrounded by "teeth". The arrangement of petals in the middle zone is indicated in black, and the filling elements are placed on it in the form of a grid. One of the main attractions is the image of a stylized element "bee" in the lower and upper parts of the lake's depths. The image of the element "bee" in the Shirvan carpets "Kabistan" and "Shilyan" is

associated with the religious beliefs of the people. The bee, distinguished by its diligence, became a totem and expressed in the ancient beliefs of people a symbol of abundance, goodness and blessing. The image of a bee in mythological images has been known since the Neolithic era (Chatal Huyuk, Southern Turkey). Most likely, these ideas were associated with primitive beekeeping in Asia Minor, the Caucasus, the Middle East and Egypt. In cosmogonic myths, the bee acts against evil spirits on behalf of God. The bee, belonging to the class of insects, is considered one of the positive symbols, as a symbol of the river of knowledge. The bee glorifies such moral qualities as industry, hard work, wisdom, enthusiasm, moderation, humility, restraint, communication, physical and spiritual purity. A symbol of generosity, dignity and self-sacrifice, the bee stings and destroys the enemy. In mythology, the bee, the assistant and companion of immortal angels, is depicted as a divine being. The birth of the bee is often considered sacred. According to ancient Egyptian mythology, the bee was born from the tears of the sun god Ra.

In Hittite mythology, the bee is depicted saving the world from drought, and in Greek mythology, the bee is depicted feeding the chief god Zeus with honey and wax, which he stores for the winter. Bees also act as companions of some ancient goddesses. Even the priests of the goddess of fertility Demeter were called "honey bees".

The image of honey bees is idealized in the religions of the peoples of the world. Due to a misunderstanding, characteristics were attributed to bees that are not unique to bees. For this reason, some people compared the hibernation of the bee with death and depicted it as an emblem of resurrection on tombstones. The Greeks and Muslims saw in the bee an allegory of the pure spiritual world.

In the symbolism of ancient Eastern countries, the bee was a symbol of royal power, and during the Old Kingdom it was the emblem of all of Lower Egypt. In heraldry, the bee symbolizes hard work [16].

The middle part of the carpet is surrounded by three border belts. The carpet is decorated in purple, orange, black, sugar and cornflower blue.

Another example, woven on the basis of the same composition, was woven by Eskinaz Satullah Ismayilova (died in 2015) in 1987. The carpet is woven from wool and cotton threads and measures 350x150 cm (Fig. 9).

Unlike the carpet we talked about above, this one depicts three lakes. The black area of the intermediate zone is decorated with a small number of “flower” elements of various shapes. In the watering cans inside the medallions with carnelian seats, there are pairs of “bee” elements of yellow color.

As a result, it can be said that it continues to develop, albeit partially, in various villages and towns located in the mountainous regions of Azerbaijan. Here, the carpet and rug samples that have survived to this day reflect the proud continuation of carpet traditions, high artistic aesthetics and the manifestation of special craftsmanship in the manufacture of each product.

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ILLUSTRATIONS

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Ancient philosophy in the works of al-kindi

Piri Akhundov,[1] Uzeyir Zeynalov
[1]*Western Caspian University, Baku, Azerbaijan*
Mingachevir State University

Abstract
This article provides a brief overview of the key tenets of the Arab-Muslim philosopher Al-Kindi, who revived and developed the traditions of ancient philosophy in the Middle East through his works. With reference to his writings, the article presents the philosopher's metaphysical, epistemological, and relativist ideas, which later influenced the development of global philosophy.
The aim of the article is to popularize the philosophy of the first Muslim philosopher, Al-Kindi. Narrative and analytical methods were used in the exposition. The novelty of the article lies in the concise presentation and analysis of Al-Kindi’s philosophical ideas in comparison with those of ancient philosophy.

Introduction

Abu Yusuf Yaqub ibn Ishaq al-Kindi was born into the well-known southern Arabian tribe of Kinda. The exact date and place of his birth and death are unknown, but researchers believe he was born in Kufa (or Basra) in 796 and died in Baghdad in 866.

Al-Kindi's childhood was spent in Basra, where he received his early education. Afterward, he moved to Baghdad to continue his studies. It is believed that there he could have encountered various philosophical schools, particularly translators of philosophical heritage from Syriac and Greek into Arabic, such as Yahya ibn Bitriq and Ibn Naima al-Himsi. It is also possible that Abu Yusuf was initially close to the Mu'tazilite circles.

Later, through his philosophical works, Al-Kindi gained great fame in the Caliphate. Caliph Al-Mu'tasim, a patron of the Mu'tazilites, invited him to the palace, granted him access to his vast library, and entrusted him with the education of his son, Ahmad.

Under the reign of Caliph Al-Mutawakkil, the dominance of the Mu'tazilites ended, and they faced persecution. Abu Yusuf was also accused of Mu'tazilism, exiled from the palace, and persecuted. However, judging by his legacy, at that time, he was no longer associated with the Mu'tazilites. His worldview was philosophical, whereas Mu'tazilism was a scholastic movement limited to Islamic theology. Despite the persecution, Abu Yusuf continued his work and wrote philosophical treatises until the end of his life, which brought him worldwide fame. He was the first Arab and Muslim philosopher and was thus called "Falasifat al-Arab" (The Philosopher of the Arabs).

Al-Kindi excelled in various fields of philosophy and knowledge. His legacy was not limited to the Muslim world and influenced the development of global philosophy and science. In particular, Abu Yusuf became widely known in Europe, where his works were translated into Latin and highly regarded by European thinkers. He was even called one of the "twelve wonders of humanity."

Due to his brilliant knowledge of Greek philosophy, some researchers believed that he knew the Greek language and translated Greek works into Arabic. However, other researchers believe that Abu Yusuf knew no language other than Arabic. His excellent knowledge of Greek philosophy was acquired through his work with translators of Greek heritage into Arabic at the "House of Wisdom" (Bayt al-Hikma). There, Abu Yusuf, a master of the Arabic language, read and edited all these translations. It was during this work that he became an expert in Greek philosophy.

In addition to purely philosophical matters, Al-Kindi also dealt with theological-scholastic issues. Notably, he engaged in polemics with Nestorians and Jacobites, defending Islamic doctrinal principles as an Islamic apologist. On some theological issues, such as divine attributes, Abu Yusuf's views were close to those of the Mu'tazilites, which led some researchers to consider him a Mu'tazilite. However, other researchers deny his affiliation with the Mu'tazilites.

Al-Kindi authored many philosophical and scientific works in the fields of philosophy, theology, logic, astronomy, geometry, medicine, and psychology. It is believed that the total number of his writings exceeded 200. Some of his well-known

works today include *Kitab fi al-Falsafat al-Ula* (The Book of First Philosophy), *Risala fi Hudud al-Ashya wa Rusumiha* (On Definitions), *Risala fi al-Aql* (Treatise on the Intellect), and *Kalam fi al-Nafs* (On the Soul).

Awareness in the Field of History and Philosophy

Al-Kindi's knowledge of the works of philosophers from past centuries was largely limited to figures such as Aristotle, Plato, Socrates, Alexander of Aphrodisias, and Plotinus. Given that, at the time, there were still few translations of ancient philosophical works available in Arabic, his understanding of their legacies was incomplete and, at times, imprecise. In some cases, he was familiar with works that were merely attributed to these philosophers.

Al-Kindi was most familiar with the works of Aristotle, particularly through the "Organon," from which he derived much of his knowledge of logic. There is no doubt that he was also acquainted with some of Aristotle’s views on metaphysics, physics, and the soul through the works of Alexander of Aphrodisias. His familiarity with Plato was more limited, and his understanding of Socrates came primarily through various stories attributed to him. Plotinus, on the other hand, he knew through fragments of the *Enneads* (Books IV-VI), which were known in the Arab world under the title *Theology of Aristotle*. This work was attributed to Aristotle at the time, and Arab thinkers were unaware of Plotinus himself.

In his writings, Al-Kindi greatly valued the legacy of ancient philosophers: “We must be grateful to those who have left us even a grain of truth, let alone those who have left us much. For it is they who gave us the opportunity to know the truth and made it easier to understand. If their legacy had not been passed down through generations to us, we would not have had the strength or ability to know the truth” [1, p. 102].

Regardless of where truth comes from, it must be accepted as it is, because “for the seeker of knowledge, nothing is more valuable than truth in its true form.” Having gratefully received the priceless legacy of ancient thinkers, we must “develop and enrich it according to the categories of our language and the demands of our time.” At the same time, Al-Kindi criticized those religious figures who opposed philosophy. He believed that there was no need to argue with them, as they were driven only by personal interests and passions. In his view, anyone who considers the pursuit of truth to be heresy is, in fact, the true heretic, because seeking truth is a form of worshipping Allah and affirming His oneness. This, he believed, was the path of Allah's messengers [1, p. 104]. Furthermore, no sane person would reject the pursuit of truth without providing arguments, and if they do so, it only confirms the need to examine the issue.

The Use of Physics Methods in Metaphysics

A distinctive feature of Al-Kindi’s philosophy was his translation of metaphysical themes, concepts, and categories into the realm of physics. He also applied mathematical methods to solve these problems. This can be seen in his work *On First Philosophy*, where he uses these approaches to explain issues of existence, the unity of God, and the finiteness or infinity of the universe.

Previously, in his *Metaphysics*, Aristotle had attempted to prove the existence of a First Cause through logic. In his *Physics*, he then demonstrated the existence of this First Cause through the motion of the universe, which is set in motion by the Prime Mover. However, Aristotle did not fully develop these principles, and they remained largely within the realm of logical constructs in his philosophy.

Al-Kindi expanded on this doctrine, seeking to prove these concepts not only through logic but also by applying mathematical and geometric principles, attempting to connect these problems to empirical experience. In doing so, he was undoubtedly guided by Qur'anic principles, according to which the issues of existence and the oneness of God should be addressed not only in metaphysical terms but also through observation of nature and empirical, physical methods. Al-Kindi considered the ascent from physics to metaphysics in these matters to be the best approach, as sensory experience is more understandable and cannot be ignored.

Critique of Atomism

In the history of Muslim thought, atomism was first criticized by the Mu'tazilite thinker Nazzam in his book *Kitab al-Juz*. After him, Al-Kindi also challenged atomism.

Atomism (from the Greek "atomos" meaning indivisible) asserts that matter consists of eternal, unchangeable, indivisible particles (atoms). Al-Kindi rejected the teachings of Democritus and Leucippus, particularly the ideas about the finiteness and creative power of atoms. He argued that atoms could not constitute objects or bodies because they are finite, limited, and divisible. This applies to movement, which is inherent in bodies and objects. He wrote: "Body, movement, and time are equal, and none surpasses the other" [3, p. 119]. He continued: "Since things are not infinite, the existence of infinite quantities is impossible" [3, p. 116]. If bodies and objects are not infinite, then even the smallest of their parts cannot be eternal, but instead divisible

infinitely.

Unlike Aristotle, Al-Kindi also believed that "time, in reality, is not infinite" [3, p. 117], and that "time and movement are finite" [4, p. 203].

At the same time, Al-Kindi agreed with Aristotle in denying the existence of the void in which atoms supposedly reside: "The void is an unbounded space and, therefore, cannot possess absolute existence" [3, p. 109].

Al-Kindi sought to indirectly prove the finiteness of time, movement, space, and objects not only through logical reasoning but also through mathematical calculations. He argued that if we imagine something infinite, it cannot exist in time, space, movement, or objects because these are infinitely divisible. If they are infinitely divisible, then they cannot be eternal and are destructible [3, p. 116]. The same applies to the qualities of things.

Thus, like Aristotle, Al-Kindi did not believe that things consist of atoms. However, unlike Aristotle, he acknowledged the divisibility of time and moments. He also rejected Islamic theological atomism. As is known, atomistic theories in Muslim philosophy were first developed by the Mu'tazilites, who adopted the basic tenets from Greek and possibly Indian philosophies. The founder of this school of thought can be considered Abu Hudhayl al-Allaf (who died in 841 or 849). Other notable Basran Mu'tazilites include Al-Iskafi (died 841 or 849), Muammar ibn Abbad (died 850), and Abu Ali al-Jubba'i (died 915). Islamic atomism was not materialistic like that of the ancient Greeks and was used to logically justify the existence of God.

According to Abu Hudhayl, all things and bodies are formed from the interaction of atoms. These atoms are indivisible, constantly in motion, and combine or separate. They lack width, length, height, color, and smell (as mentioned by Al-Ash'ari in *Maqalat al-Islamiyyin*). The development of atomistic theory belongs to Al-Ash'ari, who posited that atoms exist not only in things and bodies but also in concepts of space and time, thus becoming metaphysical categories [2, p. 16]. For Al-Ash'ari, atoms are monads created by Allah, whose existence affirms His being. Similar views were held by later scholars of the Ash'arite school, including Baqillani, Juwayni, and Fakhr al-Din al-Razi.

Simultaneously with the development of atomistic theories, a critique of atomism was also emerging in Muslim philosophy. One prominent critic was the Mu'tazilite Nazzam (who died in 835 or 838). He categorically rejected atomism, stating that "nothing whole can be indivisible. Every part is divisible infinitely." Following Nazzam, critics of atomism included Al-Kindi, Ibn Sina, Al-Ghazali, and Ibn Hazm.

Theory of Relativity

Al-Kindi was the first philosopher to perceive relativity between things, their physical essence, and their dimensions. In other words, he considered time and space to be relative. They are connected, on the one hand, to humans, and on the other hand, to each other. He wrote: "Time exists only in motion, a thing exists in motion, and motion exists in a thing" [3, p. 119]. He further noted that time, movement, and space are not only interconnected but also equal in their essence [3, p. 59].

Al-Kindi also asserted that "in reality, one can only claim that something is small or large, long or short, relative to another thing" [3, p. 43]. This judgment applies not only to physical properties but also to rational and logical categories.

In this way, Al-Kindi anticipated the conclusions of Einstein, who, by asserting the relativity of time and space, refuted Newtonian classical mechanics.

Theory of Knowledge

Al-Kindi believed that there are stages of human cognition. The most basic means of understanding are human senses, which allow us to perceive the surrounding world and its various phenomena. This type of knowledge, like the objects it comprehends, is subject to change. Different sensations generate images that are imprinted in the mind and become stable [3, p. 106].

Beyond this, there is knowledge attained through reason and logical deduction. This is a higher level of cognition that comes closer to the true nature of things. It occurs without the involvement of sensory organs, which relate being only to the material category [3, p. 107].

Metaphysics

Al-Kindi outlined the main tenets of his metaphysics in *The Book of First Philosophy*, which he dedicated to the Abbasid Caliph Al-Mu'tasim. Like Aristotle, he defines metaphysical knowledge as the knowledge of the causes of things. Understanding these causes leads to a deeper knowledge of the things themselves. According to Al-Kindi, there are four causes: material, formal, efficient, and final. In philosophy, four key questions arise: Is it? What is it? How is it? Why is it?

Naturally, Al-Kindi focused on the First Cause of all things, which he referred to as the Eternal and the One True (Al-Haqq al-Wahid). Non-existence does not apply to the One, and its existence is not dependent on other things, which cannot be the cause of its existence [1, p. 112]. Thus, the First Cause is a necessarily existing being, for which earthly concepts like form or gender do not apply. It transcends all such notions. Additionally, it is immutable and incorruptible, since such changes can

only occur through the interaction of opposing qualities, such as heat and cold, moisture and dryness, etc. Because the Eternal exists by itself, the cessation of its existence is inconceivable; it cannot change towards greater perfection or descend into imperfection.

The Eternal does not have a physical nature because the concept of multiplicity, which exists in every body, cannot apply to it. Moreover, the claim that a body can be infinite contradicts logic. If we assume an infinite body and remove a part of it, the remainder must be either finite or infinite. If it is finite, then the whole that was previously considered infinite is now finite. If the remainder is infinite, then when the removed part is reattached, the whole becomes either greater than itself or equal to itself. If it becomes greater, the question arises: how can the infinite increase? If it remains the same, how can it stay constant in size when another part is added? This leads to the illogical conclusion that a part is equal to the whole [1, p. 115].

Al-Kindi also considered it impossible to assert the infinity of bodily properties such as space, time, and movement. The world and movement are interconnected, as it is incorrect to claim that the world existed earlier and only later began to move. This is true whether we accept the view that the world was created from nothing or assume its eternity [1, p. 118].

Al-Kindi made similar claims about time, which he linked to the body. Since time is the measure of movement, it is impossible to claim that one existed before the other. But as mentioned earlier, movement did not exist before things. Therefore, time did not exist before the world. And if movement and time are interconnected with a finite body, then they too are finite and not eternal [1, p. 119-120].

Al-Kindi used these metaphysical views as evidence for key theological questions, such as the necessity of God's existence, the creation of the world from nothing, and its eventual destruction by Allah. In this regard, his goals differed from those of ancient philosophers, particularly Aristotle. Al-Kindi devoted much attention to these issues. In his arguments for the existence of God, he presented the concept of the initial moment of time. The finitude of time and movement serves as evidence of the created nature of the world and the presence of a Creator. He used all the aforementioned arguments to demonstrate the impossibility of the world’s eternity and infinity. Therefore, he concluded that “the world is created. If it is created, then there must be a Creator. In this case, creation from nothing becomes a necessity” [1, p. 207].

The most important attribute of Allah, according to Al-Kindi, is His oneness.

Conclusion

Since the inception of Islam, there have been numerous interpretations, approaches, and philosophies from various thinkers. However, Al-Kindi is considered the first recognized Muslim philosopher. In addition to the rational and evidence-based methods he contributed to philosophy, Al-Kindi incorporated the ideas of ancient Greek philosophers such as Plato, Aristotle, and the Neoplatonists, writing explanations and commentaries on their works. By doing so, he revived the ideas of antiquity, which later influenced the development of global philosophy.

Al-Kindi sought to reconcile philosophy with the tenets of Islam. Thanks to him, in the 9th century, the authority and interest in philosophy grew significantly, leading to the full translation of Aristotle's *Metaphysics*. He aimed to unify the key concepts of the philosophy of his time—religion, faith, and reason. By developing the ideas of Hermeticism and Neoplatonism, Al-Kindi presented a holistic worldview that resonated with the society of his time. Following his efforts, the goal of reconciling science and religion became a central objective for all subsequent philosophers.

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Medieval fortresses of the Goygol region

Vusala Akhundov[1], Piri Akhundov[2]

[1]Azerbaijan State Pedagogical University
[2]West Caspian University

Abstract

Ganja, one of the centers of the Eastern Renaissance during the Middle Ages, also attracts attention with its numerous monuments. The fortresses built in the mountains of the Lesser Caucasus surrounding the city of Ganja, in its foothills, on the territory of modern Goygol district, were further fortified during the Middle Ages. Several medieval fortresses, known as the Maiden's Castles around Ganja, including the Maiden's Castle of Balchily and the Maiden's Castle of Koshku, are monuments of strong defensive character. The Balchily Giz Fortress played an important role in the defense of Ganja. Near the village of Balchily in the Geygel district, along the meadow road leading from the village to the Dashkasan mountains, there are several monuments and remnants of settlements dating back to the Middle Ages. Among these monuments, the Maiden's Castle stands out for its magnificence. Archaeological materials suggest that the Balchily Giz Castle was built in the 9th century and was in use until the 16th-17th centuries.

Keywords: Geygel district, Maiden's Castle of Balchily, Maiden's Castle of Koshku, Castle of Zurnabad.

Introduction

Zurnabad Castle is one of the castles that served to defend the city of Ganja, distinguished by its magnificence. Located 8 km from the village of Zurnabad in the Geygel district, it lies within a dense forest along the banks of the Ganja River. The construction features and archaeological research of the castle confirm that it is one of the feudal castles from the 12th to 14th centuries.

During the early and medieval periods, a significant number of castles were built in various regions of Azerbaijan. These medieval castles served multiple functions, typically constructed around or near fortified cities, situated in naturally well-protected locations. Garrison troops were permanently stationed in the forts, which ensured the safety of the cities and their surrounding regions. Often located along trade routes or caravan paths, these forts functioned as communication posts and caravanserais, securing the roads.

These forts primarily served to protect the population of Ganja and its surroundings. Occasionally, castles also functioned as feudal fortifications. Academic Ziya Bunyadov noted, “In the Middle Ages, Azerbaijan had many fortresses renowned for their impregnable nature and strength. They played an important role in preventing the invasion of foreign conquerors” [4, p. 226]. I. Meshaninov described medieval castles, stating that such fortifications were usually built in strategically significant locations. Although feudal lords had strong city walls, they also surrounded their palaces with walls [7, p. 41].

Historical Significance and Architectural Features of the Balchily Giz Castle

Studying castle-type fortifications is significant for understanding the history of feudal society. Such fortifications include Gulustan, located in the mountainous part of the Goygol district; Koshku-Giz Castle in the Geygel district; Balchily-Giz Castle; Zurnabad Castle; and medieval castles in the Dashkasan district. In our opinion, the medieval castles of the western region of Azerbaijan in the Lesser Caucasus can be divided into two groups: castles with defensive fortifications and castles with feudal structures.

A distinguishing feature of this region is that, while life in most areas of Azerbaijan stagnated due to the Mongol invasion in the 13th century, a new era of revival and development began with the population seeking refuge from Mongol oppression in this mountainous region, including Geygel and Dashkasan districts. During this period, medieval fortresses began to be constructed around Ganja to provide protection. Among these castles in the Geygel district are Zurnabad Castle, Balchily Giz Castle, and Koshku Giz Castle.

Near the village of Balchily in the Geygel district, along the meadow road leading from the village to the Dashkasan mountains, several monuments and remnants of medieval settlements can be found.

Among these monuments, the Maiden's Castle stands out for its magnificence.

Ganja, one of the centers of the Eastern Renaissance, also attracts attention with its numerous monuments. The fortresses built in the mountains of the Lesser Caucasus surrounding Ganja were further fortified during the Middle Ages. Several medieval fortresses, known as Maiden's Castles around Ganja—including the Balchily Maiden's Castle and the Koshku Maiden's Castle—are monuments of strong defensive character. The Balchily Giz Fortress played a crucial role in the defense of Ganja [6, p. 146].

The Maiden's Castle of Balchily is believed to have been built in the 9th century and was in use until the 16th-17th centuries [8, p. 50]. It is located on Mount Gizgala, east of the village of Yagishlak, approximately 10 km from the city of Ganja. The village of Gizgala sits atop a mountain at an altitude of 220-250 meters above the Goshgar River. Ruins of 10-15 residential houses, constructed in a terraced style, have been preserved here. While some walls built from large stones remain in the village, much of the settlement is buried underground. The Maiden's Castle, situated about 180-200 meters above the Goshgar River, features steep cliffs on its rear and sides, with a front fortress wall that is 2 meters thick, 4-5 meters long, and 5 meters high. Determining the exact shape of the stone structure, which melds with the mountainside, is challenging [1, p. 15].

From the information and descriptions provided by various authors, it is clear that the Maiden's Castle of Balchily is near the villages of Yagishlak and Kizgala, alongside Balchily village. However, the village of Yagishlak does not exist in this area. According to local residents, there once was a village called Mollaosmanly near the Maiden's Castle. One of the areas close to the castle is referred to by the locals as Ganlitala. Additionally, near the castle lies the ruins of the historical settlement of Gizgala.

Surrounding the castle, at the foot of the mountain, additional fortress walls were built over an area of about 50 hectares, primarily inhabited by farmers and craftsmen. The fireplaces used by them have survived to this day [2, p. 6; 6, p. 146]. Notably, the Maiden's Castle of Balchily is located about 7-8 km from the village of Balchily, on the steppe road leading from the village to Mount Goshgar (currently, this road is still in use, leading to the village of Zaylik, Dashkasan Yaron, and from there to Mount Goshgar, with Mount Hasan Baba-Hasan Nane visible in the plain – V.A.). The castle stands on a large steep hill, at the top of a sheer cliff. From here, the city of Ganja and its surroundings, including the Maiden's Castle located in the village of Koshku in the Geygel district and the medieval castle near the village of Khazirahmedli in the Goranboy district, are visible like an open book.

The Balchily Giz Castle is hardly visible from a distance, resembling a sheer rock. This is because the castle was constructed by carving stones from the rock, making the castle and the rock appear the same color and indistinguishable from the outside. Approximately 250 meters away, an ancient caravan road passed by. Although it was impossible to view the Maiden's Castle from here, monitoring the area about 8-10 km along the road from the castle allowed for observation of large armies positioned along two caravan routes. To address long-term food supply issues, the castle inhabitants engaged in livestock breeding in the less steep part of the mountain. Due to the absence of a spring on the sheer cliff, water was primarily sourced from the nearby Goshgar River [1, p. 15; 6, p. 146]. However, the river mentioned by the authors here is not the Goshgar River, as it flows far from the Giz Castle. The river near the castle is a tributary of the Goshgar River, a small mountain river referred to by locals as Mollaosmanly.

Zurnabad Castle is another castle that serves to defend the city of Ganja, renowned for its grandeur. The architectural features of the castle and the data from archaeological studies suggest that it is one of the feudal castles from the 13th to 14th centuries [8, p. 48].

During the work of the Ganja archaeological expedition, reconnaissance was also conducted at the Zurnabad Fortress, concluding that it was a "castle" belonging to some feudal family and later used as a "post office." Approximately 500 meters from the fortress, along the main road, a watchtower can be found. It appears that local inhabitants and pastoral tribes used this area as a migration route. Preliminary reports also indicate that in the 13th-14th centuries, the population of Tarekam in Azerbaijan constructed small castles in the mountainous areas [8, p. 155].

The Zurnabad Castle features magnificent entrance gates that remain intact about 500 meters from the castle [8, p. 155]. From these remains, it is evident that the upper section of the entrance gates was built in the form of a badge. It can be concluded that the Zurnabad fortress did not consist solely of the remnants that have survived to this day. Thus, the castle occupied a larger territory, surrounded by defensive walls, which can be estimated to cover more than 5 hectares. Within this area, various buildings were constructed. The remnants of the castle that have reached us include the pomegranate tower of the Zurnabad castle complex. The Zurnabad fortress was primarily inhabited by pastoral communities.

This is primarily linked to the decline of agriculture during the Mongol invasion in the 13th

century, which led to the enrichment of the population through the development of animal husbandry. The circumference of the larger tower in the Zurnabad fortress measures 9 meters, while the second tower's circumference is 8 meters, and the circumferences of the third and fourth towers are 4 meters. The internal dimensions of the castle are 9x7 meters, with the circumference of the second and fifth towers also measuring 4 meters. The entrance door stands 1 meter 40 cm tall and 2 meters 20 cm wide. The castle walls were constructed from river stones, a local building material, using lime mortar. The towers show no signs or markings. The castle features an inner courtyard facing Ganja, with the left wall measuring 30 meters in length and the opposite wall 10 meters. Due to the river's orientation, the courtyard is not uniformly sized. The length of the wall on the right side leading to the castle's entrance gates is 20 meters, while the left side measures 10 meters. The wall thickness is 1 meter 20 cm. Two secure towers are situated on the wall surrounding the courtyard. The circumference of the larger tower is 8 meters, and that of the smaller tower is 3 meters. All sides of the castle and fortress are covered with tall forest trees [8, pp. 155-156].

After the fall of the Atabek state due to Jalal al-Din Mangburnu's campaign in Azerbaijan, many fortress names from this period are mentioned in the events occurring during his reign. Sources indicate the locations of several such castles in Karabakh (in close proximity to the area we are studying) and around Ganja (within the current territory of the Goygol district).

Among the castles owned by Sharaf al-Mulk, the vizier of Jalal al-Din Mangburnu (often referred to in scientific literature and textbooks as Khwarezmshah Jalal al-Din, but it is clear that Jalal al-Din was not a king of Khwarezm), the castles of Hirak and Charaberd are mentioned, located in the modern Agdara district. Thus, supporters of Sharaf al-Mulk, the atabey Uzbek, aimed to capture the hiding castles. To achieve this, he resorted to threats, revenge, bribing people with money, and other methods. Dizmard captured the castle by gifting its chief guard with honorable clothing, gold, and gifts. He then arrested the chief hadjib of the Atabek Uzbek, Nasreddin Muhammad, seized the castle of Gahram, and acquired a substantial sum of money. During the same period (i.e., in 1227), Seyfeddin Gash-Gara, the governor of the sultan in Ganja, and Shamseddin Garshasb, the deputy of the vizier Sharaf al-Mulk Gash-Gara, took the castles of Hark (Hirak) and Jarabard (Charaberd) [4, p. 142]. Ziya Bunyadov noted that the ruins of both castles are located in Karabakh [4, p. 142].

Hamdualla Gazvini, who lived in the 14th century, wrote about a place called Hirak (Hirak) near Bard. According to Hamdualla Gazvini, the residents of Bard spend the summer season in a meadow called Hirak and return to Bard in the winter. The Hirak sources are described as picturesque and pleasant, featuring pastures suitable for hunting. The Hirak castle, located near the Talish village of Agdara, is situated approximately 28-30 km from Bard, in the foothills, amidst streams and rivers [3, p. 106].

Zakariya ibn Muhammad ibn Mahmud al-Qazvini, who lived in the 13th century, mentioned the fortress of Gerak near Ganja in his work "Asar al-bilad wa akhbar al-ibad" ("Reports on the Monuments and Inhabitants of Countries"). He wrote: "A step from the city stands the fortress of Harak; around it is fragrant grass, water, and gardens. Since the weather is pleasant in the summer, the residents of Ganja go there and remain until the heat passes. The Ganja nobility have beautiful houses here. Ganja is located on the Daruran River; it originates from a mountain called Muruv..." [10, pp. 160, 338]. From this source, it is evident that the Ganja River, which flows through the Dashkasan and Goygol districts and runs through the middle of Ganja, is referred to as Daruran. It is also known that the mentioned castle of Harak was a feudal castle and urban settlement. Academician Nailya Valikhanly shows that one stage is approximately 25 km [9, p. 11]. Considering the indicated distance, the described location, and the nature, we can preliminarily suggest that this fortress can be identified with the fort near the village of Zurnabad. Academician Ziya Bunyadov also analyzed the information provided by Zakariya al-Gazvini.

Academic Ziya Bunyadov links Mount Hirak to modern Gadjikend, located near Ganja [4, p. 211]. As mentioned earlier, the Hirak castle is situated near Bard, in close proximity to the Haraberdi castle. Information about another castle of the same name near Ganja is found in the work of Abdurrahid al-Bakavi titled “Summary of Monuments and Wonders of the Mighty Ruler.” He notes that one step from Ganja lies the Gerak fortress, surrounded by fragrant herbs, flowing water, and gardens. In summer, the weather is pleasant here, and the residents of Ganja move to this location, where there is a large mountain with a plant called Hur, resembling a pine tree [5, p. 120].

Citing Zakariya al-Qazvini, Ziya Bunyadov also points out that young people spend their summer months at the foot of Mount Hirak, surrounded by fragrant herbs and gardens, where the summer is characterized by good weather. Each family has a house there, and the people of Ganja stay until the heat subsides. Local nobles have beautiful residences there [4, p. 211]. Thus, Bunyadov

suggests that the place called Hirek is located in modern Gadjikend, based on this information.

Regarding the location of another fortress of the same name near Ganja, doubts arise based on the aforementioned sources. However, this castle is likely not on the territory of Gadjikend but in a nearby area close to the village of Zurnabad in the Goygol region, approximately 7-8 km away, in a dense wooded area by the Ganjachay River, as mentioned in the sources. In academic literature, this castle is now more commonly known as the Zurnabad Castle.

In July 2013, the Ganja Archaeological Expedition, led by Arif Mamedov, conducted archaeological research in the territory of the Zurnabad fortress and its surroundings. Due to the characteristics of its construction and architecture, this castle dates back to the 12th-14th centuries. It can be confidently stated that it was built after the famous earthquake of 1139, as the area is located in the forests of the Alparag mountain range (the modern Kepaz mountain and its surroundings), where the earthquake occurred. Had the castle existed before the earthquake, it would have been completely destroyed. Moreover, Mount Alparag is also referred to as Alherak in medieval Arabic and Persian sources.

According to Abdurrahid al-Bakavi, this castle is located one step from Ganja, approximately 30-35 km away. Thus, in the mountainous region of the Lesser Caucasus, there were two Hirak castles: one near Bard, serving as pastures for the Bard community, and the other in the upper reaches of the Ganjachay around Mount Alparag, in the pastures of the Ganja population [3, p. 107-108]. Unlike researcher K.V. Bagirov, we believe that the Hirak fortress near Bard can be identified with the Gulushtan fortress located on the banks of the Inka River, near the village of Gulistan in Karabakh.

Conclusion

Thus, the natural and geographical conditions, strategic position, and natural resources of the Goygol region facilitated the construction of defensive fortifications during the Middle Ages. It can be concluded that the medieval castles in the territory of the modern Goygol region were directly related to the medieval city of Ganja. In the Middle Ages, fortresses were built around Azerbaijani cities to protect them and strengthen the defense system. The fortresses built near Ganja, in mountainous terrain and on naturally well-protected sites, served as shelters for the city's population during wars. There is no doubt that these forts housed permanent garrisons.

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11.

Specific features of political socialization of youth in modern period

Piri Akhundov,[1]
[1]*Western Caspian University, Baku, Azerbaijan*

Abstract

From the moment an individual is born, the process of his or her integration into the society in which he or she lives begins. From the moment an individual is born, the process of his or her integration into the society in which he or she lives begins. The integration of the individual into society, in parallel with its biological development, continues unabated, gaining new social status. Part of an individual's integration into society is his or her political socialization, which enables him or her to become a participant in political processes.

In such a period, socialization, which reflects the process of integration of the individual into society, as well as political socialization, is exposed to new influences, leaving the hegemony of non-traditional factors of influence. This, in turn, affects the political orientation of the younger generation. Often, this influence manifests itself in negative shades, with ideas and views that are marginally accepted by the political system, which in some cases leads to political deviations with legal deviations.

This article discusses the process of political socialization, the stages of this process and the social institutions involved in political socialization, and then examines in detail the factors influencing the process of political socialization of young people in modern times. For this purpose, the literature on the subject was studied, and then an attempt was made to determine the effectiveness of the factors influencing the political socialization of young people.

Key words: socialization, political socialization, political participation, youth, ideological education

Introduction

Today, society is experiencing a post-industrial stage of development, accompanied by globalization. This stage is characterized by the advancement of science and technology, global integration encompassing all aspects of society, and the transformation of high-speed media and digital technologies into a leading force in people's lives.

In this context, the process of socialization, including political socialization, is being influenced by new factors, moving beyond the control of traditional ones. This affects the political orientation of young people. In some cases, these changes may have a negative impact, leading to the emergence of ideas and views incompatible with the existing political system, sometimes manifesting as political and legal deviations.

The responsibility for preventing such situations largely rests on traditional social institutions such as the family, schools, higher education institutions, and political organizations. These institutions must recognize their role in the political socialization of youth, helping young people to form the right political views and avoid being influenced by marginal political movements.

Currently, young people and their social groups play an active role in public and political life. In Azerbaijan, the process of political socialization primarily occurs during adolescence and youth, which requires special attention from the state. Azerbaijan's youth policy is aimed at the comprehensive development of young people and their involvement in the political life of the country.

Socialization of the Individual

The socialization of the individual holds a special place in personality theories. Although different theories on this topic highlight various aspects, the fundamental ideas about the essence of socialization are generally consistent. Socialization of the individual refers to the process of integrating a person into society and various types of social groups from the moment they are born (Vahidov, Agayev, 2008: 27). It is the process of assimilating the elements of the culture of the society in which the individual lives, including social norms and values, and this process continues throughout life, with the acquired experience being applied at every stage.

Mikhail Rozkin and his co-authors, in

Introduction to Political Science, support this idea and write that "in the process of socialization, children often adopt behaviors, speech, and beliefs that last a lifetime. Although some are taught formally, most knowledge is acquired by imitating others. Similarly, political socialization teaches political values and certain behaviors. Pledging allegiance to the flag, singing the anthem, and learning to obey authority, from government officials to police officers, is conveyed by families, friends, teachers, and the media" (Rozkin et al., 2019: 130-131).

Several social institutions simultaneously or sequentially participate in the socialization process of an individual. A similar process occurs in political socialization. The family, as the first social group and institution encountered by children, usually takes precedence over all other factors. It is no coincidence that the family is considered the first socializer in a person's life. As the place of primary socialization, the family is a crucial factor in shaping an individual's personality and determining their future development in society (Vahidov, Agayev, 2008: 27). Generally, the overt efforts of governments and schools to socialize often fail when their values conflict with those of the family. For example, in former socialist societies with strong religious influence, such as Poland, communist regimes tried to instill socialist values in children, but families taught them to ignore these messages. In democratic countries like the United States, these two types of socialization reinforce each other, as family values and state values are compatible and often overlap (Rozkin et al., 2019: 131).

As mentioned earlier, the formation and socialization of an individual occur through a complex, lengthy, and multi-faceted process involving various social institutions and groups, the extent of whose influence is not always clear. The family is just one of these social groups and institutions. In addition to the family, important roles in the socialization of the individual are played by educational institutions (kindergarten, school, university, etc.), peer groups, the media, and religious institutions (Hasanov, 2010: 67). Each of these institutions and social groups leaves a lasting imprint on the socialization of the individual, which manifests throughout their life. These influences determine the type of personality the socialized individual belongs to. The formation of traditional, realistic, idealistic, hedonistic, materialistic, and frustrated personality types depends on the combination of socializing factors and their effectiveness. In the current stage of societal development, the basic personality type is better suited to the demands of the time (Efendiyev, 2009: 134-135).

The socialization process can be divided into two stages. The first stage is social adaptation (Ismailov, Akhundov, Yusifov, 2016: 198). As the name suggests, this stage involves the individual's adaptation to the socio-economic conditions, social roles, norms, and values present at various levels of social life, social associations, and public organizations. The second stage of socialization is called internalization. Internalization is the process of integrating social norms and values into one's inner world. It is not enough to simply acquire knowledge; it must be transformed into belief. Knowledge turned into conviction manifests in the individual's activities. Ultimately, the socialization of the individual is closely related to labor, social, political, and intellectual activities.

Political socialization and the individual's transformation into a participant in political life.

The term "political socialization" was introduced into political science in 1959 by American researcher G. Heyman. In 1969, E. Denson and C. Riutt published a book titled *Political Socialization* (On Modern Problems of Political Sociology, 2014: 132).

Political socialization is a key component of the overall process of individual socialization. It occupies a special place among the factors influencing the development of a society's political structure. Political socialization can be defined as the process by which an individual assimilates political values, norms, and rules of behavior, and implements them in their political activities (Shirliev, Akhmedov, 1997: 322).

Political socialization is a two-way process: on the one hand, society raises an individual as a citizen, and on the other hand, the socialized individual creatively contributes to renewing society by influencing the existing political structure and social relations.

In some studies, political socialization is presented as a separate process that begins after general socialization; however, this approach is incorrect (Abdullaeva, 2013: 9). Political socialization, like general socialization, starts in childhood. From an early age, a child is introduced to political attributes such as the name of the state, its capital, the head of state, national symbols, etc. Therefore, political socialization is a process of acquaintance that begins in early childhood. Some sources also claim that political socialization depends on whether a person is politically active and desires to engage in politics (Abdullaeva, 2013: 9). However, this is also not the correct approach. Political socialization occurs regardless of whether

the individual is politically active or interested in politics. Whether a person becomes politically active and participates in political processes in the future depends on their level of political socialization.

Parents have the most significant influence on the formation of children's political behavior and thinking. Most people view politics as their parents did and follow similar political lines. Differences emerge later, when young people expand their political knowledge through more academic sources (scientific works, political programs, etc.) and are able to assess political processes from different perspectives. Essentially, the family forms the psychological foundation of the individual, which in turn shapes their political views. The family transmits norms, values, beliefs, and attitudes to children, such as party affiliation and either trust in the government or political skepticism. The most influential period is the early years, especially from 3 to 13 (Ismailov et al., 2016: 210-211). Children may adopt their parents' values without personalizing or questioning them and carry them throughout life. Research has shown that people with authoritarian personalities often experienced violence in childhood. Almond and Verba concluded that those who felt heard in their family as children have a greater sense of political decency in adulthood (Rozkin, 2019: 132).

Numerous sociological and political studies indicate that after the family, educational institutions, labor collectives, and the media hold a special place in the system of political socialization (Ismailov et al., 2016: 211). Recently, the influence of the media has increased, and many are concerned that this effect might be negative.

Features of Political Socialization of Youth in Modern Times: As mentioned earlier, political socialization is a process that starts in childhood and plays an important role in shaping an individual as an active participant in the socio-political life of society. The period of adolescence and youth is crucial in this process. It is during this time that political socialization takes on its final direction, determining the individual’s level of engagement in political life as a citizen. As a result of this process, three elements of a person’s political "identity" emerge, which define their ability to operate in the political environment (Shiraliev, Akhmedov, 1997: 324). First, the necessary knowledge about political processes and the activities of political leaders. Second, political values that guide the development of the political system and its components and are accepted as general political goals. Finally, the personal stance of the individual toward political objects.

A key point here is that the overall combination and direction of political qualities acquired through political socialization are crucial for the harmonious functioning of the political system. From this perspective, guiding the process of political socialization in the right direction is of great interest to all elements of the political system, especially the state. The influence of factors affecting the political socialization of the younger generation, the most dynamic part of society, has a direct impact on the stability and development of the political system, and this influence can sometimes be destructive. During the integration of young citizens into political life, it is important to avoid both “political anarchy” and “political apathy.” In both cases, participation in political processes occurs under the influence of external factors, rather than the individual's conscious political interests.

In both cases, unlike young people who engage in political processes based on their own "political interests," participation in these processes happens under the influence of others.

Different political types are shaped by various factors influencing the political socialization of youth. These types can be grouped into five categories: harmonious, hegemonic, pluralistic, conflictual, and conjunctive. Among them, the political system prefers the harmonious type, which establishes conflict-free relations with the authorities. The conflictual and hegemonic types, on the other hand, are the most problematic, as their spread can negatively impact the stability and development of the political system. To prevent the influence of forces interested in increasing the number of such types, it is crucial to foster interest in traditional means of socialization among adolescents and young people (On Modern Issues of Political Sociology, 2014: 141-142).

One of the key aspects of political socialization in the younger generation is the process of ideological education or choosing a political ideology. In Azerbaijan, young people rarely commit to a specific ideology, but in other countries, such situations often lead to sharp conflicts between youth groups with differing ideological views. Preventing such cases in the future in our country is directly linked to proper political socialization and ideological education of the youth.

The modern global community faces various challenges and threats that impact political stability. Despite the existence of protection mechanisms, internal and external threats continue to affect political systems. Only an ideologically strong society can withstand such global challenges. A strong individual, with a solid moral and ideological foundation, will resist the negative influence of movements such as extremism and terrorism, which can only be achieved in a society that places emphasis on the ideological education of the

younger generation (Samadov, 2019).

Conclusion

Political socialization is one of the key factors affecting the stability and development of political systems in modern times. Proper socialization helps continuously update and evolve the political environment. However, improper implementation of the process or the increasing role of negative factors in the political socialization of the younger generation may pose a significant threat to the stability of the political system. In today's world, despite the ongoing activities of traditional institutions of socialization, the role of non-traditional factors like the internet and media has grown. The abundance of information related to violence, crime, and other risks negatively influences the minds of young people, affecting their socialization.

The state should strengthen efforts to shape a proper attitude among adolescents and young people toward the history and culture of our nation, uniting them around shared values such as national independence, humanitarianism, solidarity, tolerance, national reconciliation, respect for family institutions and religious traditions, and patriotism. Instilling patriotism in the youth helps to form citizens loyal to the state and the nation. Our army, comprised of such young people, liberated our lands during the Second Karabakh War, restoring the territorial integrity of our country.

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Historical records on climate change in Azerbaijan

Salman Ibishov

Western Caspian University, Azerbaijan salman.ibishov@wcu.edu.az

Abstract

The presented article examines the impact of natural climate changes on historical processes. Based on geographical, historical-demographic, and literary sources, it analyzes the effects of the last glacial period during the Middle Paleolithic on anthropogenesis, using material samples obtained from the Azikh and Taglar caves in Karabakh. The traces of the Holocene epoch are studied based on findings from Damchili and Gobustan. The article presents historical facts indicating that the Little Ice Age lasted longer in Azerbaijan, extending up to the 1870s. However, existing scientific literature limits the end of the Little Ice Age to the 1850s.

Keywords: Climate Change, Last Glacial period, Little Ice Age , Paleolithic era, Azerbaijan

Introduction

As is well known, the study of climate change is primarily the focus of fields such as paleoclimatology, geography, geology, and paleogeography. However, natural phenomena, including climate changes, serve as both causes and consequences of various historical events. For instance, their impact on anthropogenesis, Napoleon Bonaparte's defeat in Russia in 1812, the Viking Age, the "Great Migration of Peoples," and hundreds of similar events have prompted historians to study the influence of climate change on historical processes.

The article presented by us is dedicated to the impact of climate change on the historical demographic situation in Azerbaijan, spanning from the ancient Paleolithic period to the early 20th century. It should be noted that while research on the effects of climate change on historical processes in our country is limited, substantial studies have been conducted in Europe, the USA, and Turkey. H.H. Lamb, A.James S, M.Ali Ozdemir, T.Karaimamoglu can be mentioned among the authors used in the mentioned article.

The notable researchers of the Gobustan monuments, Necefqulu Rüstemov and Firuze Muradova, have dedicated their studies to the small stone monuments, focusing on the investigation of the Mesolithic and Neolithic periods in Azerbaijan[30].

Turkish researcher M. Ali Özdəmir interprets the traces of climate change and the prolonged natural events such as glaciation, cooling, and warming, which occurred sequentially from the Mesolithic period to the early 20th century, in the history of civilizations as follows:

"From the beginning of the Holocene period, humans began to settle in today's arid and semi-arid regions, engaging in primitive agriculture and animal husbandry. After the Würm glaciation period, during the climate moderation and warming around 8000 and 7000 BCE, a favorable environment for primitive people to live in the plains emerged. In the Neolithic period, people abandoned foraging and began to engage in productive agriculture. At the beginning of the Holocene, Neolithic settlements were established along the shores of lakes that gradually drew in Anatolia[31]."

The Impact of the Last Glacial and Holosen period in Azerbaijan

The development of the human species in the last 2 to 3 million years was simultaneous with the Ice Ages; this is certainly not a mere coincidence. In the dramatic climate changes the innate reactions of the individuals may often have been inadequate. The large brain of the human species can carry a complex language. Thus humans dispose of a new type of information: orally transmitted experience. This was an advantage. It also created new problems: the language had to learned, so that the time of childhood was increased, the brain is energy consuming, and - last not least - there are two

30 Cəfərqulu Rüstəmov, Füruzə Muradova, QOBUSTAN Kiçikdaş abidələri, “E.L.” Nəşriyyat və Poliqrafiya, Bakı, 2008

31 Özdemir, M. A. (2004). İklim Değişmeleri ve Uygarlık Üzerindeki Yansımalarına İlişkin Bazı Örnekler. Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi, 6 (2), 173-192. p. 174

decision makers in one brain: the instinctive and the rational[32].

For much of the last 100,000 years, immense volumes of ice—tens of millions of cubic kilometers—accumulated on the northern continents. Areas that are now home to cities like Chicago, Glasgow, and Stockholm were once covered by over a kilometer of ice. Sea levels were up to 130 meters lower during this time, as vast amounts of water were trapped in the ice sheets, exposing large regions of what is now the continental shelf for tens of thousands of years[33].

An aspect of the ice age world that has not been much written about is the enormously greater extent of many lakes and inland seas in temperate and lower latitudes. They were there because of shifts of the main rainfall belts and the reduced evaporation resulting from lower temperatures than now and increased cloudiness. The Caspian Sea spread far to the north-west and north of its present shores into the central and eastern part of European Russia, and attained over twice its present size[34].

The "phenomenon" of the Pleistocene epoch was the repeated continental glaciations, during which much of the land area in the Northern Hemisphere was covered by glaciers and permafrost. Sea and ocean levels fell sharply, leading to the formation of a new zonal structure of Earth's nature that was significantly different from the modern one[35].

According to comprehensive studies, it has been determined that at the beginning of the Upper Pliocene , the area under investigation was completely submerged by sea waters as a result of the transgression that occurred in the Caspian Sea. At that time, the western boundary of the Caspian Sea extended as far as the city of Tbilisi. Only the southern foothills of the Greater Caucasus and the northeastern slopes of the Lesser Caucasus experienced alluvial-proluvial conditions[36].

Scientists studying paleodemography have proposed theories regarding the quantity and composition of individuals during the Paleolithic era, as well as the middle age period. The average age of humans in the Paleolithic and Mesolithic periods was twenty years, and women typically died earlier than males did, according to historical-demographic literature.

Births during this time exceeded deaths by a small amount[37]. Primitive humans typically perished from starvation, the cold, a variety of diseases, and natural disasters.

V.I. Kozlov, a paleodemographer, estimated that 30 million people were on the planet during the Paleolithic era[38]. Paleolithic life expectancy was 40 years, with an average life expectancy of little over 20 years, according to V.P. Alekseyev, another paleodemographer.

Archaeological studies in prehistoric Azerbaijani caverns provide insight into the effects of shifting climatic conditions on prehistoric people's way of life.

The Mustye culture, which started 100 thousand years ago and ended 35 thousand years ago, is what has been documented in the archeological literature as the Ice Age. The Aurignacian and Solyutre cultures succeeded the Musye culture, and they persisted until twelve thousand years ago[39].

The Azikh, Taglar, and Zar caves are currently three ancient archaeological material culture camps in Karabakh that distinctly illustrate the aggravation of the country's climate. The most studied of these caves since 1963 is Taglar Cave, which best illustrates climatic shifts and is thought to be the richest settlement of the Middle Paleolithic era!

The Azikh (III-layer), Taglar, Dashsalahli, Gazma, and Buzeyr cave camps from the Mustye period were found during the archaeological studies carried out in the territory of Azerbaijan[40]. As was already mentioned, Mammadali Huseynov found the Taglar cave in 1960, making it the richest Mustye culture camp.

Six cultural layers were found when studying the camp. Note that the majority of the implements discovered in the Taglar cave are flint-based. Red, yellow, green, and other colors are among the various shades of flint. The primary tools in the toolbox are both sharpened and honed.

In Taglar cave, numerous hearth levels were found. Remarkably, the number of Lower Paleolithic cave camps in Azerbaijan is growing during Middle and Upper Paleolithic periods. Neanderthals and modern humans were compelled by the harsh weather to relocate. People now use artificial fire because of how unpredictable nature may be.

The region's climate has evolved toward both warming and cooling. Three relative warming periods are identified against the backdrop of this overall climatic decline: the first, which occurred 64–63 thousand years ago, the second, which occurred 58 thousand years ago, and the third, which

32 New Achievements in Geoscience, Edited by Hwee-San Lim, IntechOpen (March 23, 2012), p. 135
33 WILLIAM JAMES BURROUGHS, Climate Change in Prehistory The End of the Reign of Chaos, Cambridge University Press, 2005, p. 18
34 Hubert H.Lamb, CLIMATE, HISTORY AND THE MODERN WORLD, Second edition, Routledge, 1995, p.100
35 A.B.Мамедов,Б.Д.Алескеров Плейстоцен Азербайджана 2002.-190стр Издательство "Nafta-Press",2002,p.3
36 Atakişiyev.R.M Orta Kür çökəkliyinin Üst Pliosen-Pleystisendə Paleocoğrafiyası(Azərbaycan ərazisi daxilində) Avtoreferat Bakı-2006, p.22
37 Д.К.Шелестов Историческая Демография 1987-288с. Издательство "Высшая школа",1987, p. 130
38 Д.К.Шелестов Историческая Демография 1987-288с. Издательство "Высшая школа",1987, p. 155
39 A. Ə.Cəfərov, Quruçay dərəsində, Bakı, Azərnəşr, 1990, p, 4
40 A. Ə.Cəfərov, İnsanlığın səhəri, Bakı, Azərbaycan Dövlət Nəşriyyatı, 1994, p, 43

occurred 50 thousand years ago. This was recorded in Western Europe during the Würm glacier[41].

As is well known, the Pleistocene epoch in Azerbaijan was replaced by the Holocene epoch. In other words, the last glaciation saw a climate warming and mildness during the Mesolithic period, around 12,000 to 8,000 years ago. The glaciation of the Paleolithic period drastically changed the fauna and flora of Azerbaijan. The previous large animals became extinct and were replaced by fast-running small animals, which led the humans of the Middle Stone Age to create bows and arrows for hunting. As a result of warming, primitive agriculture and animal husbandry began to develop in the previously submerged plains of our geography, which had been under water during the Paleolithic period.

At the beginning of the Late Pliocene, a transgression in the Caspian Sea caused the studied area to be completely submerged by sea waters. During this time, the western boundary of the Caspian Sea extended as far as the city of Tbilisi[42].

Looking at tribal migrations as well as climate proxies and extending his purview as far as Lake Aral and the Tarim, L.Gumilëv more particularly concluded that, from 200 bc to ad 400, cyclonic tracks were usually well north. Therefore, the Caspian rose even as its environs turned more arid. This pattern reached a climax in the third century ad[43].

As noted above, starting from the Middle Ages and continuing into the later periods of the Neolithic and Eneolithic, the climate significantly improved, and production agriculture developed.

The findings from Damchili and Gobustan document the emergence of the bow and arrow, which were major inventions of the Mesolithic era. Most of the Neolithic stone artifacts found in Gobustan are similar to those from the Mesolithic in terms of typology and morphology. This similarity indicates the continuity in the historical and cultural development of the Gobustan inhabitants, suggesting that the same tribes, possibly closely related ethnic groups, lived there for millennia.

In this context, the human skeletons found in the recent Mesolithic burial site at the "Firuz" camp are noteworthy. Anthropologically, these individuals were dolichocephalic (long-headed) Europoid, similar to contemporary Azerbaijanis. The Neolithic skull found at the "Keniz" camp in Gobustan also shares this same anthropological structure44.

Impacts of the Little Ice Age in Azerbaijan

The author highlights the impact of climate changes that occurred during various historical periods, particularly focusing on those in the Middle Ages and their effects on historical processes and demographic situations. Noting the role of the Vikings during the warming period of the 900-1100s, he emphasizes that the subsequent phase, known as the Little Ice Age (1350-1850), saw significant cooling, particularly from 1560 to 1850.

The effects of the Little Ice Age (1350-1850), especially on health, are striking. Beginning in the second half of the 19th century, the onset of global warming brought about drought, leading to new global challenges. Due to drought, in 1900, 3 million people died in India, in 1907, 24 million in China, and during 1921-1922, people perished from starvation in Russia[45].

It should be noted that the consequences of the "Little Ice Age," which lasted until approximately the 1870s, also affected Azerbaijan. In the 19th century, climate change, which was one of the major causes, led to multiple instances of famine and epidemics.

Between 1866 and 1904, ten years of famine were recorded in Iran. The most devastating of these occurred from 1869 to 1872, resulting in the deaths of 1.5 million people. This event brought terrible misfortunes to Southern Azerbaijan. The Russian consul in Tabriz extensively discussed this situation in his reports dated October 21, 1872. Famine, unproductiveness, poverty, and overpopulation were key factors driving the migration from Southern Azerbaijan to Northern Azerbaijan. The population faced calamities such as hunger, natural disasters, epidemics, and inflation[46].

The plague epidemic, drought, and the harsh winter of 1871-1872 confronted the population with famine and death. In the second half of the 14th century, the European population also faced similar challenges due to climate changes; during that dreadful period, 50% of Europe's population, or 25 million people, fell victim to the plague epidemic[47].

A Russian officer, I. Ogranovich, who witnessed these events, wrote about this horrifying situation: "Two periods have particularly remained in the memory of the Shahsevans. The first was 1859, when the Mughan plain was covered by snow for more than a month, and the Kura River froze, resulting in the destruction of all the property and farms of the Shahsevans. They referred to that year as 'the year of sheep slaughter.' The second was 1871-1872, when one-third of the Shahsevans went

41 A. Ə.Cəfərov, Quruçay dərəsində, Bakı, Azərnəşr,1990, p. 45
42 Atakişiyev.R.M Orta Kür çökəkliyinin Üst Pliosen-Pleystisendə Paleocoğrafiyası(Azərbaycan ərazisi daxilində) Avtoreferat Bakı-2006, p.22
43 Neville Brown, History and Climate Change A Eurocentric perspective, Routledge,2001, p.71
44 Süleyman Əliyarlı, Azerbaycan Tarixi, Bakı, Azərbaycan Nəşriyyatı, 1996, p. 16
45 Özdemir, M. A. (2004). İklim Değişmeleri ve Uygarlık Üzerindeki Yansımalarına İlişkin Bazı Örnekler. Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi, 6 (2), 173-192. p. 174
46 Шукуров К.К. Отходничество в Закавказье из южного Азербайджана (второя треть XIX в 1905 г.) Автореферат.Баку.1984, p. 13
47 Д.К.Шелестов Историческая Демография 1987-288с. Издательство "Высшая школа",1987, p. 135

bankrupt, most perished from the cold, and some fell victim to the plague epidemic[48]."

Conclusion

There are numerous sources regarding the causes and effects of climate change, as well as its impact on anthropogenesis, migrations, socio-economic factors, culture, and historical processes as a whole. Overall, natural phenomena in the galaxy, such as cooling, glaciation, and warming, have been significant causes of major historical demographic events. Such occurrences are plentiful in both world and Azerbaijani history.

Thus, the global glaciation periods that have affected the Earth, which is 4.5 billion years old, have also left their mark on Azerbaijan. The last glaciation period, which fundamentally changed Azerbaijan's fauna and flora, forced primitive humans to settle in higher, more geographically favorable cave camps. While the Azikh cave is known as an archaeological site from the Lower Paleolithic period, additional archaeological habitation sites from the Middle Paleolithic - Glaciation period include Taglar, Gazma, Buzeyr, and Zar. We believe that the discovery of artificial fire by primitive humans was also a result of the impact of global cooling on human thought.

In paleogeography, the concepts of Pleistocene and Holocene correspond to the historical disciplines of Paleolithic and Mesolithic, as well as subsequent stages.

It should be mentioned that unhygienic conditions are a major contributing factor in people's short lifespans, along with climate change. Archaeological research on the effects of climate change on anthropogenesis in Azerbaijan's prehistoric past has not been extensive. History tells us that the ancient society faced death and dying during the last glacial period, which is the middle Paleolithic–Musaye period. The air temperature dropped below 100 degrees, and the fauna of the sub-paleolithic period (3-2 million years to 100 thousand years ago) destroyed the flora.

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Kurmukoba holiday

Salminaz Azizova Ramil

Western Caspian University, Department of History, Master Student

Email: selazizova@gmail.com

ORCID ID: 0009-0005-3655-0180

48 Огранович И.А. Сведения о шахсеваняхь.Кафказский календар на 1871.г.Тифлис,1870, p.73

Abstract

In Azerbaijan, where different cultures and religions have been formed since ancient times, along with Turks, nations and ethnicities such as Georgians, Laks Tsakhurs, Avars and Ingiloys live. The culture of the mentioned ethnic groups is reflected in household life, crafts, cuisine and various ceremonies. Meanwhile, the "Kurmukoba" holiday attracts special attention.

The Kurmuk Albanian temple, which belongs to the Caucasian Albania era, located in the territory of Gakh region, is one of the ancient places of faith visited by both Christians and Muslims. The Kurmuk temple, which bears the traces of the Caucasian Albanian church of the early Middle Ages, was called "pir" and "ojag" by thousands of people of different religions, where they performed various ancient rituals.

Kurmukoba holiday has actually been a nature ritual since ancient times and was performed in connection with the Kurmuk river. Because the Kurmuk River is sometimes destructive, the local population believed in its power, so a ceremony was held in honor of the Kurmuk River twice a year in the spring and autumn when the river overflows. Throughout history, the Kurmukoba holiday, which bears traces of the ancient fertility rite related to the moon and water cult, has not lost its original essence.

The purpose of this study is to investigate the all-Azerbaijani traditions of the local population rooted in the ancient Caucasian Albanian culture, their unique way of life on the basis of the Kurmukoba holiday in historical, geographical and cultural aspects.

Keywords: ritual, traditions, Kurmukoba holiday, Kurmuk temple, Caucasian Albanian culture

Introduction

The history of the structuring of Christianity as an official religion in the Caucasus begins with the Caucasian Albanian Church. The antiquity of the Albanian Apostolic Church is confirmed not only by historical facts, but also by ancient Albanian temples that have preserved their existence until our time. The Kurmuk temple has its own special importance among the temples that have been a place of faith and respect for our people for centuries in this regard.

Investigating the history of the Kurmuk Church, located on the banks of the Kurmuk River, near the village of Embarchay, 590 meters above sea level, we see that this monument-temple is an example of syncretism of religions in Azerbaijan. The temple we are talking about was built by Tsarist Russia in the 19th century on the remains of the ancient Albanian temple that existed in the Gakh region in the 1st-3rd centuries. The monument is also called the "Moon Worship" temple. The reason for this is related to the worship of the Moon Goddess by most of the Albanian tribes.

In the 19th century, in order to strengthen its political power in the lands of Azerbaijan, the Russian Empire carried out a policy of Christianization and began a wide promotion of the Russian Orthodox church. Therefore, Albanians were forced to go to the Orthodox or Gregorian Church. In 1894, a Russian-Orthodox church was built by the "Society for the Restoration of Orthodox Christianity in the Caucasus" on the remains of the ancient Albanian temple of the 1st-3rd centuries, and the church was named after St. George. Despite this, they did not succeed in erasing the name of the Kurmuk temple from the people's memory.

"Kurmukoba" is celebrated here every year on the last day of the first week of May and November. Here, Azerbaijanis are praying by raising their hands to the sky according to the Islamic tradition, while the Georgians standing next to them are making a cross according to the Christian tradition [Alizade A. (2016): 369]. This unique and rare event that happens every year in Gakh region proves once again that religious fanaticism is far from Azerbaijani society. In such a place, the Kurmukoba holiday becomes a symbol of the tolerant tradition and multicultural conditions historically existing in Azerbaijan.

Although the "Kurmukoba" holiday includes both Christian and Islamic religious elements, the holiday is held in honor of the Kurmuk River, during its overflowing season. Since the Kurmuk River is sometimes destructive, the local population believed in its power, so a ceremony was held in honor of the Kurmuk River twice a year, in spring and autumn, when the river overflows.

On the day of the "Kurmukoba" holiday, representatives of the Azerbaijan and Georgian peoples come to the chapel and pray by going to the top of the highest rock in the area. After visiting the Kurmuk temple, the visitors take a family rest here.

Of course, the most reliable source for studying the origin and historical roots of the Kurmukoba holiday is ancient sources and archaeological-ethnographic materials that have survived to this day. In the past 200 years, Azerbaijani ethnographers and researchers have made a great contribution to the study of Kurmukoba traditions and ceremonies. In the analysis of these issues, Mahabbat Pashayeva, Emil Karimov, H.Azimov and Sh.Ahmadov's researches are discussed in the article. Researching this rich heritage, writings of A.I. von Plotto, Zelik Yampolski and Mose Janashvili are also on the list

of foreign sources used. In addition, various electronic resources of a general and specific nature were used in the article, which once again proves that the Kurmukoba holiday has not lost its original essence and has preserved its past tradition to this day.

The origin and history of the holiday

Azerbaijan is known not only as a land with its ancient history, rich cultural heritage and mysterious nature, but also as the homeland of Zoroastrianism, the first cradle of Christianity in the Caucasus, a place where Islam is widespread and different ethnic groups live in mutual understanding, peace and respect. Indeed, this is a land where colorful cultures benefit from each other. There are ceremonies and holidays of different religions and different periods, as well as dozens of historical monuments that carry the truth of Caucasian Albania. The fact that the Azerbaijani people now visit ancient Albanian temples such as Komrad, Armatay, and Kurmuk show that they, as the heirs of the Albanian tribes, have not forgotten their ancient traditions, even after the adoption of Christianity and Islam [Pashayeva M. (2015): 24]. Both Christians and Muslims visit ancient places of faith in high mountain peaks such as Komrad in Gabala region, Parigala in Zagatala region, Kish in Sheki region and Kurmuk temple in Gakh region. The syncretism of religions can be observed in various forms in such places of belief.

I would like to emphasize this that in 2023-2024, I also had the opportunity to visit the Kurmuk Temple and the Kurmukoba holiday in May and November in connection with my field of scientific research. Indeed, this holiday was a very unique event as an example of multiculturalism and tolerance. During the day, tens of thousands of people who speak different languages and from different ethnic groups such as Georgians, Laks, Tsakhurs, Avars, Ingiloys come there along with Azerbaijani Turks. Everyone is in a festive mood. People who attended the ceremony also prayed for other relatives who were not there. Among the visitors, pilgrims from other regions and neighboring countries are one of the recurring events for years [Azimov M., Ahmedov Sh.]. The history of this holiday is actually closely connected with the Kurmuk temple and its location. It is no coincidence that Kurmukoba starts from the temple path and ends with a visit to the temple.

Kurmuk Temple is a church built on the remains of an ancient Albanian temple (I-III centuries) that once existed in the Gakh region [Collection of materials for describing localities and tribes of the Caucasus, vol. 31. Tiflis: 1902]. Archaeological excavations revealed the remains of an ancient building in the temple and proved this information in 2006. The church is built of red brick. The bell area was built in a circle and narrow windows were placed. The bell is covered with a conical drop and a cross is placed on the roof. Archaeological excavations in the southern part of the temple in September 2006 revealed that the temple was gradually reconstructed four times in different centuries (I-III, IV-VII, VIII-IX, XIX). This proved that the temple did not belong to Georgians or Armenians, but to the Albanian Church in the early days. According to the list approved by the decision of the Cabinet of Ministers of the Republic of Azerbaijan dated August 2, 2001, the "Kurmuk" temple was registered as a historical and cultural monument. In 2003, the Kurmuk Temple was overhauled by the Ministry of Culture.

According to a legend that is common among the people, the large rocks on the territory of the Kurmuk temple were a temple of worship of the Moon. A source from the 19th century also reports the existence of an ancient temple inside a rock cut near the Kurmuk church [Collection of materials for describing the localities and tribes of the Caucasus (1902): 21-22]. After Christianity became the state religion of Caucasian Albania, the Kurmuk Temple was established on the site of the Moon Shrine. Ancient sources, as well as archeological and ethnographic research, suggest that the "Temple of the Moon Goddess" was built in Albania in honor of the moon goddess Selena. Strabo wrote that before the adoption of Christianity, the Albanians worshiped Helios (Sun), Zeus (God of Earth and Heaven), especially Selena (Moon), where the temple is located near Iberia [Strabo: 477]. He noted that in Albania, the priests "led the great and densely populated holy provinces, but also employed the temples." There (in Caucasian Albania) "the priest was the most respected man after the ruler." The priests not only had large plots of land, but also controlled the slaves of the temple. The control and guidance of the gods, or rather Selena - the sacrificial ceremonies of the moon God, also belonged to the duties and functions of the priests. At the sacrificial ceremony, animals were mostly slaughtered. However, slaves are also said to be used as victims. Interestingly, among the ancient Albanian temples that still exist in the north-western region of Azerbaijan, only in the Kurmuk temple all people, regardless of their ethnic and religious affiliation, sacrifice either roosters or rams [Jabiyev G.]. After the information that Strabo said that the temple was near Iberia, we can conclude that the temple named after the Selena-Moon God, where the ancient Albanians worshiped, is the Kurmuk Temple. This temple has been a place of common faith for thousands of years, regardless of ethnicity or religious affiliation. The temple has come to the

present day through historically difficult roads. The remnants of the original construction of the temple also give reason to think that the Kurmuk Temple, as a place of faith, existed long before Islam and Christianity. We emphasize once again that the church building, now presented as the Kurmuk Temple, was built in the 19th century under the auspices of Tsarist Russia on the remains of the Albanian temple there. We are talking about the remains of construction, built in the first century AD, using a river stone and lime mortar on black stone, which is a place of pilgrimage. The "black stone" here has become a holy place for believers in the very early days. This was discussed more widely ahead.

After the occupation of Azerbaijan by Russia, visits to the holy places were gradually imposed officially or informally. It was at that time that the Kurmuk Temple was destroyed by the tsar's representatives and a Christian church made of baked bricks was built next to it. Fortunately, the foundation part of the Kurmuk Temple and the remains of construction scattered around remain to this day as a valuable historical evidence. However, it should be noted that the church building, built in the style of Georgian architecture of red brick near the black stone, has nothing to do with the Albanian Kurmuk temple. It is no secret that the main purpose of the construction of this church, in accordance with the Russian ideology, was to deprive the peoples living in the mountains and remotees of the system of historically formed national and spiritual values and to assimilate them. However, regardless of their beliefs, the locals continued to call it "Kurmuk Temple", "Pir", "ojag", and to performe various ancient rituals, including the holiday "Kurmukoba". The authors of the XIX century also reported on the holiday "Kurmukoba". They said that the local population performed rituals on more primitive religious ideas on this holiday.

According to linguist Zaza Aleksidze, the name Kurmuk derives from the word of "kur" (well, pit, chala) and "-mukh" (a suffix meaning plural in the language of Caucasian Albanians). According to Moses Kalankatlu, first of all, the Albanian magicians, knowing that Jesus Christ was born, came to Jerusalem: "Where is the born Jewish king? The Albanians, who worshiped the rooster, were greeted by St. Elisei, who had been appointed by his brother Jacob I Bishop, who came in the name of Jesus, and joined the belief he had brought. Elisei created the oldest church in the whole Caucasus in Kish, declaring the Temple of the Moon that existed before that Christian church. Albanians have converted to Christianity in this region early. But there was also a religious division among the Albanians. Therefore, Zaza Aleksidze thinks that the Kurmuk is the post-Christian name of the Zergoyn Plain, where the Holy Elisei were killed in a confrontation with pagans. [J. Gippert, W. Schulze, Z. Aleksidze, J.-P. Mahé (2008):12]. But according to other researchers, the meaning of the word Kurmuk is explained by the merging of the words "kur" - "extravagant", "capricious" or "rancorous" and "mugh" – the name of ethnic Turkish tribes who settled in Azerbaijan since ancient times [Orujov B. (2018): 60].

The ancient roots of the holiday are ancient, characterized by the development of many customs and rituals of different religions on the holiday. Different beliefs are at the root of the holiday. One of the highlights is that the holiday is held in spring and autumn (May 6 and November 23 each year). There is another temple complex on the rock near the Kurmuk River. On the road leading to the main temple, there is a huge black stone, reminiscent of a large door closed once and for all. According to the legend of this depression on the black stone, there was still a church during the lifetime of Jesus Christ. When the Prophet was crucified, the doors were turned to stone and closed once and for all. In this legend it is possible to see traces of the early Christian stage of Caucasian Albania [Pashayeva M. (2015): 26].

According to another belief in Zoroastrianism, a golden rooster lives in a black stone. Once a year, in autumn, in November, the angel descends from the sky at night and separates the doors of the black stone, and in the morning closes again. A person who can enter that cave until the morning gains happiness and immortality. It is also a symbol of happiness in Azerbaijani fairy tales - the motifs of the "Bird of Shahlig" (Huma Bird).

Modern research also proves that the Kurmuk area is a sacred place with folk epics. The area inhabited by a hero named Bakil in the "Kitabi-Dada Gorgud" saga is the Kurmuk area of Gakh. The homeland he protects is here too [Musaoglu J]. Because, looking around the Kurmuk temple built in the highest part of Gakh, the Georgian border is clearly visible. If we look closely, it is possible to see the person crossing the border only with the naked eye. Even in the epic "Kitabi-Dada Gorgud", it is believed that the rock where Bakil fell in one episode was near the "Kurmuk" temple. Indeed, the temple was built on a precipitous rock.

The traditions of the Kumrukoba holiday also provide interesting information about its history and origin. In the next part, this topic is discussed in more detail. Previously, the Kurmukoba ceremony would continue around the bonfire after get dark. Because seeing the moon reflected in flowing water was considered a symbol of life, growth, and fertility throughout the Turkish geography [Seyidov M.

(1983): 136-139]. Therefore, it is no coincidence that the Kurmuk temple was built on the Kurmuk river and bears the traces of the ancient Moon cult.

Holiday customs and beliefs

Muslims, Jews and Christians share sacred spaces. For example, the city of Jerusalem is a holy place for members of all three heavenly religions. But they not only cannot share this city in peace and tranquility, they even do not hesitate to fight for it. From this point of view, the Kurmuk temple is the only place where Muslims and Christians visit it together and can turn this visit into a celebration of brotherhood.

Although both Christian and Islamic religious elements are included in the Kurmukoba ceremony, the remnants of ancient beliefs and natural rituals are more evident in the "Kurmukoba" holiday. Kurmukoba holiday has actually been a nature ritual since ancient times and was performed in connection with the Kurmuk river. The fact that this ceremony is held in April and November - i.e., during the flood season of the river - gives reason to say that the Kurmuk temple, as well as the Kurmukoba ceremony, took its name from the abundantly watery Kurmuk river, which is the source of life in the region. Kurmuk River sometimes since it is destructive, the local population believed in its power, therefore, a ceremony was held in honor of the Kurmuk River twice a year, in the spring and autumn, when the river overflows. The word "oba" in Kurmukoba expresses the local character of this holiday. "Oba", as is known, is one of the terms denoting a patronymic union in Azerbaijan, and it means the holiday of only this village, i.e. Kurmuk village-Kurmuk province, which covers the Kurmuk river region.

The local population sometimes calls this holiday "Hereteoba" [Керимов Э. (2007): 14-17]. According to historical sources, Hereti province was located in northwestern Caucasus Albania and covered the Alazan and Iori rivers basin. In brief, a historic Albanian province - Hereti was located in the area, including the Kurmuk Temple and the Kurmuk River,. Heret was the area inhabited by the Gels, Gats and Hers, which was part of the Albanian tribe union. The Gels are the ancestors of the Ingiloys, who still live in the historic Hereti region. Indeed, the Kurmukoba ceremony is currently being held more widely among the Ingiloys. . Naming the holiday as “Hereteob” shows that it is in fact a holiday for the people of Hereti, an ancient Albanian province, and has been celebrated since the time of Caucasian Albania.

On the day of Kurmukoba, the temple opens its doors to everyone, as well as to neighboring peoples in the country. Local residents of the region - Azerbaijanis, Ingiloys, Georgians, visitors from the surrounding areas - demonstrate a true example of tolerance, visiting the temple together in a friendly atmosphere and performing religious rites in the morning. Special security measures are also taken as the number of visitors to the temple is measured by thousands.

During the holiday, people take food from their homes and bring some to the temple. As mentioned above, the population, committed to their historical memory, performs a number of ancient rituals that carry the traces of the moon, the sun and the cult of the mountain, the cult of water, and the tree cult on the holiday of Kurmukoba. They intend to tie old pieces to the trees or light candles on the stones. This is a piece of rock that was previously erected on a stone.

Performance of the rite twice a year "golden rooster" and the sheep are slaughtered as a symbol of the sun. As you know, according to ancient Eastern mythology, sheep is red, i.e. reddish-brown, were considered born of the sunbeam [Khalilov J. (1984): 417]. As you can see, despite the inclusion of both the Christian and Islamic religious elements, in the Kurmukoba ceremony, the remains of the ancient system of beliefs manifest themselves much more strongly. The authors of the 19th century note that on this holiday, along with religious rites, the rite of sacrifice was performed [von-Plotto A. (1870): 21-22]. People whose dreams come true will definitely slaughter a sacrificial rooster or chicken near a stone that is later considered sacred. The fact that the tradition of slaughtering roosters or chickens in shrines in a number of regions of Azerbaijan, such as Ganja, Lankaran and Gabala, has existed since the beginning of the 19th and 20th centuries, and has already been proven by historical and ethnographic research [Yampolski Z.I. (1962): 24-25]. Studies have also been shown that the rooster is one of the zoomorphic totems in the Oghuz tribes [Seyidov M. (1983): 32]. During the Kurmukoba Holiday, even sacrificial sheep were brought to the temple. A special ceremonial dish called “Khaslama” is cooked from this sheep and given to everyone, which is a sign of the syncretism of religions. Another interesting thing is that Christian pilgrims do not use pork that is forbidden by Islam during their pilgrimage.

Due to the Cult of the Moon, the locals even performed rituals against female infertility at the Kurmuk Temple. So at this time infertile women intended, especially in the spring. At this time, endless women, especially in the spring, sometimes go barefoot on the steep mountain road to the Kurmuk Temple. In general, it is one of the traditions of this holiday to climb barefoot. When

believers fulfill their intents, they ascend to the church barefoot. Even if the soil is wet and cold due to the temperature, visitors do not believe that walking barefoot in this cold soil will make them sick. The Ingiloys, Tsakhurs, Avars, Rutuls and other ethnic groups who take part in this holiday, worship together and have fun together. In front of the temple, as in ancient times, folk festivals, wrestling, arm competitions of wrestlers, beautiful compositions performed by dance groups around the bonfire, folk songs performed by ashik and zurna artists are performed today. Others compete on horseback. People also thank the Kurmuk River for sustenance, prosperity and abundance.

Conclusion

Thus, regardless of their religious affiliation, the participation of large masses of people in this holiday and the performance of the sacrificial ritual proves that the Kurmukoba holiday is a ceremony with ancient, primitive roots. The Kurmukoba holiday, held in honor of the Kurmuk River and bearing the traces of the ancient fertility ritual related to the cult of the Moon and water, managed to keep alive the traditions of Azerbaijan based on the ancient Albanian culture, and was able to preserve the ancient worldviews formed in the earliest stages of history through all the difficulties.

In fact, the Kurmuk temple and the Kurmukoba holiday cannot be considered only as an example of the culture of tolerance historically existing in Azerbaijan. This temple and holiday is also a clear confirmation that Christians and Muslims can live together and in peace. The holiday of Kurmukoba proves that religions do not divide people, on the contrary, they can unite them around common values. In this sense, the potential of religions to create peace is extremely great. It is simply necessary to correctly assess this potential and not turn religion into a tool for political goals.

The history of religions proves that there has never been a second society that has been able to do this better than the people of Azerbaijan. Therefore, Azerbaijan's experience in this field is also important in terms of ensuring inter-religious dialogue in the world and learning and applying the peace-making potential of religions.

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Xülasə

Qədim dövrlərdən müxtəlif mədəniyyətlərin və dinlərin formalaşdığı Azərbaycanda türklərlə yanaşı gürcülər, laklar, saxurlar, avarlar, ingiloylar kimi millətlər və etnik qruplar da yaşayır. Qeyd olunan etnik qrupların mədəniyyəti məişət həyatında, sənətkarlıqda, mətbəxdə və müxtəlif mərasimlərdə öz əksini tapmaqdadır. Bu sırada “Kürmüköba” bayramı xüsusi diqqət çəkir.

Qax rayonu ərazisində yerləşən Qafqaz Albaniyası dövrünə aid Kürmük Alban məbədi həm xristianların, həm də müsəlmanların ziyarət etdikləri qədim inanc yerlərindən biridir. Erkən orta əsrə aid qədim alban kilsəsinin izlərini daşıyan Kürmük məbədini müxtəlif dinlərdən olan minlərlə insan “pir”, “ocaq” adlandırıb, burada müxtəlif qədim ayinlər icra edib.

Kürmükoba bayramı əslində qədim dövrlərdən bəri təbiət ayini olub Kürmük çayı ilə bağlı icra edilib. Kürmük çayı bəzən dağıdıcı olduğundan yerli əhali arasında onun güçünə inam yaranmış, buna görə də ildə iki dəfə yazda və payızda çayın daşma dövründə Kürmük çayının şərəfinə mərasim icra olunmuşdur. Tarix boyu Ay və su kultu ilə bağlı qədim məhsuldarlıq ayininin izlərini daşıyan Kürmükoba bayramı öz ilkin mahiyyətini itirməmişdir.

Bu tədqiqatın məqsədi yerli əhalinin kökü qədim alban mədəniyyətinə dayanan ümumazərbaycan ənənələrini, onların unikal həyat tərzini tarixi-coğrafi və mədəni aspektdən araşdırmaqdır.

Açar sözlər: *mərasim, ənənələr, Kürmükoba bayramı, Kürmük məbədi, Qafqaz Albaniyasının mədəniyyəti*

Резюме

В Азербайджане, где с древних времен формировались различные культуры и религии, наряду с турками проживают такие нации и этносы, как грузины, лакцы, цахуры, аварцы и ингилойцы. Культура указанных этнических групп отражена в быту, ремеслах, кухне и различных обрядах. Между тем, особое внимание привлекает праздник «Курмукоба».

Курмукский албанский храм, относящийся к эпохе Кавказской Албании, расположенный на территории Гахского района, является одним из древних мест поклонения, которое посещают как христиане, так и мусульмане. Курмукский храм, который несет в себе следы кавказской албанской церкви раннего средневековья, назывался «пир» и «очаг» тысячами людей разных религий, где они совершали различные древние ритуалы.

Праздник Курмукоба на самом деле был природным ритуалом с древних времен и совершался в связи с рекой Курмук. Поскольку река Курмук порой разрушительна, местное население верило в ее силу, поэтому дважды в год весной и осенью, когда река разливается, в честь реки Курмук проводился обряд. На протяжении всей истории праздник Курмукоба, несущий в себе следы древнего обряда плодородия, связанного с культом луны и воды, не утратил своей изначальной сути.

Целью данного исследования является исследование все-азербайджанских традиций местного населения, уходящих корнями в древнюю культуру кавказской албании, их уникального образа жизни на основе праздника Курмукоба в историческом, географическом и культурном аспектах.

Ключевые слова: обряд, традиции, праздник Курмукоба, Храм Кюрмюк, культура Кавказской Албании

Some decorations discovered from Khinalig monument of Guba region about

Vafa Mahmudova[1], Idris Aliyev[2]
[1]*Western Caspian University ,Baku,*
[2]*Institute of Archeology and Anthropology of ANAS*
vafa-mahmudova@mail.ru

Abstract

Religious rites, burial customs, and burial monuments of ancient people are a valuable source for studying the life and lifestyle, economy, and spiritual culture of ancient people. Archaeological findings prove that they performed primitive rituals, created various cults, and used talismans made of different materials, starting from the Paleolithic period. For example, there are hundreds of facts about the use of morion, turquoise, and sheva hanging ornaments. According to the evil eye tumor belief, the negative thoughts a person thinks come out of his eyes, which are the window to the world, and this is called the evil eye. He believed that the only way to prevent and protect himself was to confront him face to face. There is a widespread belief that anything resembling an eye, which has come down to modern times and still retains its essence, protects people from evil thoughts and the evil eye.

But why are these stones blue? Were stones with an eyeball element always represented in this color?

Blue represents the principle of protection from ancient times to the present day. It is the color of the sky. Some sources show that Genghis Khan believed in fortune telling, and for protection, he always drank water from his father's blue cup. In addition, in the order he gave to the high court, court decisions related to the people were written in a blue notebook, and laws were written on white paper with a blue pen and passed down from generation to generation.

Ornaments with eye bead elements were also found in a number of ancient archaeological monuments recorded on the territory of Azerbaijan. Among them, the most interesting are the findings recorded in Khinalig village of Guba region.

Key words: archaeological excavation. Khinalig, stone box graves, artifact, fortification, eye bead, exchange links.

Introduction

Archaeological finds prove that there is faith in the evil eye, in the mind, starting from the Neolithic era, when talismans made of various materials were used to protect against it. For example, the facts of using pendant decoration from morion, turquoise, shawl are hundreds [1, p.117-118]. According to the belief of the Omah of the evil eye, negative thoughts that a person thinks come out of his eyes, which are his window to the world, and this is called the evil eye. It was his belief that the only way to prevent and protect it was to oppose the eye to the eye. The belief is widespread that everything that resembles an eye that has come down to modern times and still retains its essence, protects people from evil thoughts and evil eyes.

But why are these stones blue? Is it for all times that stones with an eye bead element were represented in this Color? Blue represents the principle of protection from past times to the present day. He is the color of the sky. Some sources indicate that Genghis Khan believed very much in sight, and if for protection, he always drank water from his father's blue jug. In addition, in his order to the High Court, Court decisions on the people were written in a blue notebook, and laws were written on white paper with a blue pen and passed down from generation to generation. Decorations with eye beads elements were also found in a number of ancient archaeological monuments recorded in the territory of Azerbaijan. The residents of Khinalig live in the south of the Caucasian Range, in the eastern part of Qudyalchin, in the village of Khinalig. The people of Khinalig call their villages “katcsh”, and they call themselves “kattid”. In the first half of the 19th century, according to research by Russian and German linguists, the Khinaligs who were from the Albanian tribes are part of the Shahdag ethnic group.Khinalig is located approximately 2300 m high above sea level. Population of the village was in touch with the neighboring villages and districts through the mountain trails until the end of the 60s of the last century. The closest relations between the residents of Khinalig were mainly in summer, with neighboring Gabala and Shamakhi regions, and horses as well as oxen were used as vehicles. The people of Khinalig are a faithful community as religious muslims. People with their special traditions, dresses and ceremonies, live in the special architectural houses made from the pebble stones. Looking at the structure of the village, it becomes evident that the ancient and modern graves are

generally located around the village. It is possible to say that in ancient times, people in Khinalig were buried in nearby places, and then the cemeteries were expanded as the village grew. It is very interesting that the calligraphers of Khinalig had written and painted on the surfaces headstones made from hard and volcanic rocks. It is possible to see such ancient headstones in the cemetery covering about 40 hectares. There are 210 houses in Khinalig with 160 historical structures. Currently, 1905 people live in Khinalig. The exact number of members of the ethnic Khinalig ethnic group living in Azerbaijan has not been determined yet. Nearly 250 in the village of Vladimirovka (Gulustan) in Guba, about 120 in the village of Garachay, 20 in Arabkhan settlement, 130 in Dagli village, 100 in Alekseevka village, 20 in Narimanabad village, 15 in Igrig village, 15 in Alibeyqishlag village, 10 in Barli, 100 in the village of Ashagi Atuc, around 100 in Guba, 30 in Timiryazev settlement, 20 in Girmizi settlement, 10 in each of Agbil, Pirvahid, Khucalala, Digah, Nugedi villages, 60 in Vendam village of Gabala region and 30 in Gabala city, Nearly 30 families live in Sumgayit, 20 in Baku. In addition, approximately 50 families of Khinalig descendant live Russia’s Moscow, Ufa, Surgut, Tumen. One fact should be noted that in XVII - XVIII centuries several families of Khinalig moved to Aghdash region and settled the village of Khynakhly [2, p. 28-36]. Until the end of the 60s of the last century, the rural population communicated with neighboring villages and regions through mountain trails.

Fig 1. Image of gabir master stone cladding

Religious rituals are a traditional attribute of living

The closest contacts of the khinaligites were with neighboring Gabala and Shamakhi districts only in the summer months, and horses and bulls were used as a means of transport. Khinalig people are a religious community as devout Muslims. Khinalig people, who have their own special traditions, costumes and ceremonies, live in houses made of river stones with a special architectural structure. Artifacts belonging to the initial settlement in khinalig area were found in the early Bronze Age (e.the fourth (son was) Javan, from whom (came). In 2010-2012, with the support of the Ministry of Culture and Tourism of the Republic of Azerbaijan, leading researcher of the Institute of Archeology and Ethnography of ANAS, associate professor I. N. Aliyev a result of archaeological excavations carried out by Aliyev in the area called “Zangar”, an ancient settlement called “Zangar (Khinalig)” and a mound of the Middle Bronze Age in 500 m east of this settlement were discovered besides the ancient settlement “Zangar (Khinalig)”, archaeological research works of

Stone box graves were investigated in an ancient cemetery called “Kima Ligebris“ among the local population, located 2 km southeast of Khinalig, on the Right Bank of Gudyalchay, at an altitude of 1968 m above sea level, covering an area of about 3 ha. Various utensils, decorations and weapons were revealed from the graves. Among these finds, the most interesting for us are ornaments with an amulet element-beads. It should be noted that most beads are an amulet element, and these are the majority. As is known, the existing eye beads were used in the divinity. It should be noted that this type of beads is also found in the monuments of the Caucasus and Eastern Black Sea territories. We will tell you about ome of the find that are Intere Ted in thi matter. exploratory nature were also carried out in the archaeological monuments such as “Orta Tepe”,

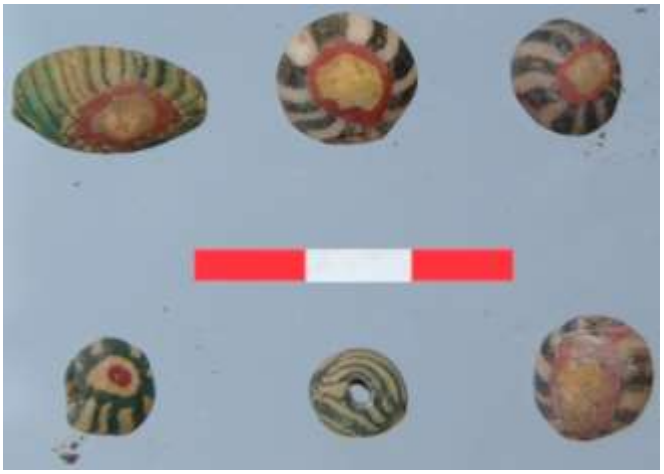

Fig 2. Amulets with two "eyes"

Large-sized black beads were found in grave No. 26 discovered from the monument. The edges of the bead are accompanied by 4 sharp lines of light brown color. The sides of the bead circle around the cut with a basma ornament. The diameter of the hole is 4 mm. The size of the bead is 15 mm in diameter and 10 mm in height. This bead is also in the form of an eye bead. Due to the looting of grave No. 29, the anatomical condition of the bones was incomplete and only a few agate and bronze beads were recorded inside the grave. A crescent-shaped hanging ornament made of iron, fragments of knives and a spearhead discovered from grave 30, rich in several archaeological materials, were found. What differs from other graves and above-ground beads is its large size. The thickness of the barrel-shaped bead is 9 mm, and the length is 13 mm.

Fig 3. Grave No. 30

Fig 4. Grave No. 31

Finds on the skeleton in this grave can be noted ornaments and clothing accessories made of bronze, as well as beads made of gold. 2 pairs of three-row gold-containing glass beads were recorded by us from this tomb, which is rich in neatly made bronze ornaments pendant-type, pin-type finds. The bronze buckle used in clothing should also be mentioned in the list of interesting finds. The buckle found here was in good condition and the hook part and the belt attachment part remained intact. There are also two holes in the belt.

Fig 5. Grave No. 32

The buckle is slightly chamfered. In terms of shape, its Edge is semicircular. At the same time, large-sized beads made of bronze, decorated with a wicker pattern and ornamental curls remained in good condition. we can safely note that there is a scabbard for a knife.

A significant number of beads were obtained from grave No. 32 over the skeleton and from the underfoot corner.

As we mentioned above, the religious views of ancient people were different in different periods. In the most ancient times, people worshiped almost all objects that were considered antique, difficult to obtain, and found for the first time. For example, the ancient inhabitants of Mugan used morion stone both for witchcraft and protection from the eye.

Morion (Latin morrosus – “dark, gloomy”, sometimes - black crystal) is black or dark brown quartz. In opaque specimens, only thin fragments or parts of morion are slightly translucent, as observed in obsidian. The processed species of morion can easily be confused with obsidian. Unlike morion, obsidian is never found in nature as crystals.

Information about morion deposits in Azerbaijan and the Middle East has not been found. Tons of morion crystals were discovered only in Ukraine, Madagascar, Kazakhstan, Canada, USA, Brazil, Russia (Ural, Transbaikal, North Caucasus, Aldan). It is known that there are enough quartz sand deposits in Azerbaijan. However, there are no morion deposits. Glass sand contains less iron, about 0.3%, and morion has 1.5%. Research shows that the nearest morion deposits to Azerbaijan are in the North Caucasus. It can be concluded from this that the carriers of the early agricultural culture of Azerbaijan maintained relations not only with the inhabitants of the Middle East of the same period, but also with other tribes of the Caucasus.

Fig 6. Various beads found in burial №10

For the first time in history, records are found in Pliny under the name “momorion”, which also refers to the Indian version of the name – “pramnion”. In Russia, morion has been known since the beginning of the Ural mines, where the mineral accompanies aquamarines and topazes. In the sources, information was found that in 1787, the first director of the Russian Academy of Sciences, Princess Ekaterina Dashkova, sent a sample of black quartz covered with small transparent rock crystals from Yekaterinburg for the mineralogical cabinet of the Academy. At the same time, it is noted that morion has magical and mythical properties. It is also believed to have many magical properties: it is one of the most powerful protectors against magic and negative energy, increases concentration and overcomes communication difficulties, gives confidence and attractiveness to the male half of humanity, transforms negative energy into positive, develops positive and pragmatic thinking and overcomes stress, anger, nervousness, envy and excessive emotionality . The use of Morion in everyday life dates back to ancient Egypt, where the natives wore thin Morion plates with bronze edges to wear like modern “sunglasses”. Morion is a stone of witches, priests, fortune tellers and sorcerers, highly valued by alchemists. The mineral is used as a conductor and guide to other worlds for mental travel to the past and future, connecting with otherworldly forces. Its power was used by necromancers in séances of spiritism, mystical séances, and invoking the spirits of the dead. Mystical abilities are often attributed to the ability to control the behavior of several people at the same time. D Connoisseurs of stone skills claim that even gambling addiction and other pathological hobbies are reversed in the presence of black morion crystals.

The mineral removes uncertainty, unreasonable fears, phobias and anxieties. It helps to forget old unpleasant moments from life. It promotes a sense of stability and creates a sense of security. Recently, the stone has been widely recognized as an attribute for meditative practices. Beads are of different sizes and different colors. Beads made of Paste , Agate, amulets and mineral stones were present all over the grave.

A bronze knife head, a Burmese diadema folded with flattened ends, various types of pins, as well as jewelry and clothing items such as bracelets, spiral strings and buckles were recorded. The study of the materials obtained interesting facts obtained as a result of scientific and cameral research allows us to compare the monument with the Mingachevir complex of archaeological monuments, in our

opinion.

The latest findings also allow us to talk about the unfolding of political events in this region. The material and cultural traces of the Sassanids, Alans, Arabs are reflected in this complex. It is safe to say that the territory of Khinalig was one of the most important mountain passes connecting not only the eastern and western parts of present-day Azerbaijan, but the entire front Caucasus and the Caucasus [4, p.89].

Fig 7. Various beads found in burial №10

It should be added that as a result of the research work carried out, the chronological framework of the main object of study, Kimaligabrish monuments, was determined. [3,p.26]. Based on the studied graves and the materials found, it can be unequivocally established that the burial complexes date back to the 5th-8th centuries AD. Based on the materials found in previous times and now, we can say that a steady, long-term stable culture of the local population is observed here.

However, it should be added that a number of materials and burial customs have a great influence of Caucasian and Dagestan cultures since the 5th century BC-up to 8 centuries BC. Khinalig was of great military strategic importance in the dags of the Greater Caucasus and witnessed great historical events. This region was of strategic importance in the political and military processes between Rome-Parthia, Byzantium-Sassanids, Khazar-Arabs. The Land of Khinaliq keeps material and cultural examples of those events in itself until now. This is evidenced by the factual materials found in the same time that the inhabitants of Khinalig maintained exchange relations with close and distant neighbors.

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MOUNTAIN TOURISM AND ECONOMY

Directions for improving the mechanism of innovative development of production in the agrarian field

Samira Abasova [1]
[1]*Azerbaijan State University of Economics (UNEC)*

Abstract

The main goal of the article is to determine the innovative development prospects of production and the directions for the expansion of the use of innovative resources by analyzing the level of economic development of the agricultural sector and the current situation of using the innovation potential.
The reforms carried out in the direction of improving the mechanism of innovative development of production in the agricultural sector should be directed to the implementation of innovative projects, and should be scientifically based on the formation, development and use of the innovation potential of the agricultural sector.

Keywords: Agrarian field, innovative development, competitiveness, agriculture, application of innovative innovations.

Introduction

In modern times, the problems of innovative development of the economy and the formation of innovative potential have become a priority of the economic policies of World States. At present, innovative development - science, new technologies, high-tech products, etc. creating the basis for sustainable economic growth of the economy is changing the scale and structure of production. It makes the solution of problems of production and competitiveness of environmentally friendly products in agriculture even more relevant. The production of competitive and high-quality domestic products is mainly ensured by the innovative development of production. In this regard, there is a great need for the introduction of innovations aimed at the economic development of Agriculture, which is characterized by the diversity of agroclimatic conditions.

The use of innovative techniques and technologies in agricultural production is largely due to the centralized management of Science and the dissemination of its achievements among manufacturers.

The introduction of innovations in the agrarian sector is very important. This is because the effective use of innovative resources requires the organization of scientific activities in the field of innovation and a wide range of activities on the basis of Public-Private Partnership, having a decisive impact on the sustainable development of Agriculture. Thus, the results of the obtained scientific research stipulate that its application in the production of agricultural products intensifies the measures envisaged in this area.

In modern conditions, the economic development of the country's national economy, including agriculture, must adapt to a rapidly changing environment and its transition to a new level of development. In this regard, one of the necessary conditions for reaching a qualitatively new level of Management in the agrarian sphere is precisely the development of innovative mechanisms, the formation of an innovation system in this area and the identification of strategic directions of its development. It is the effectiveness of the implementation of such mechanisms that depends on their complexity and the level of all elements that determine the conditions of activity of Agrarian subjects, as well as the material and technical base and existing organizational and economic mechanisms[5].

Innovative mechanisms reflect the introduction of new technologies in research programs and increasing the level of production intensity. This time is characterized by the creation of special technological innovations - new plant varieties, animal breeds, the transfer of scientific developments to production. Organizational and socio-economic aspects of innovations in economic research include issues of improving the institutional environment, rationalization of forms of state support, the introduction of new methods in the management of production systems.

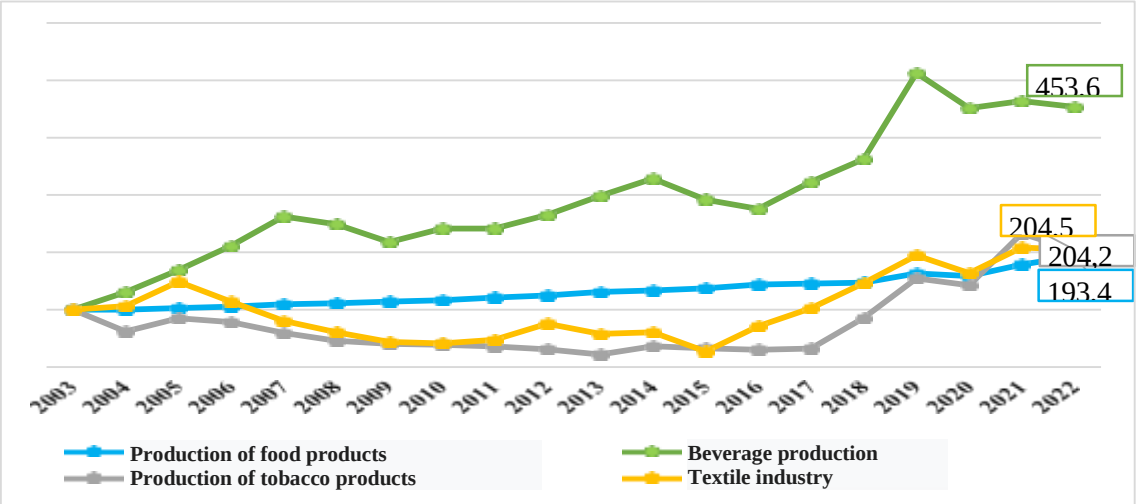

Fig 1. Growth of the production of agricultural processing products dynamics, in real terms, in % 2003=100)

Source: Prepared by the author based on the data of the State Statistics Committee of the Republic of Azerbaijan.

Analyse

As can be seen from the graph, as a result of the introduction of innovative innovations, the dynamics of growth in the production of agricultural processing products I, is observed.

As a result of the introduction of innovative innovations in the field of Agriculture, obtaining maximum income and improving the efficiency of innovative processes in management is the most relevant today and from his words[4]. As a result of the research carried out, it can be concluded that innovation is the most important condition for production efficiency and product quality, as well as production, having a dual impact on the identification of innovative processes and the dynamics of economic growth it opens up new opportunities for increasing its efficiency, and also conditions the transition to modern directions. So, innovation is a process that involves the creation of innovations that can ensure the improvement of production efficiency.

The introduction of technological innovations and modernization of production in terms of the development of the agrarian sector, which is one of the most important areas of the country's economy, reflects the following directions: So, - increasing the efficiency of innovative technologies in the field of Agriculture; - creation of a system for managing innovative and innovative processes of agricultural entities.

Today, a new stage in the development of entrepreneurship, which is the leading force of the country's economy, has begun in Azerbaijan. the decrees signed by the head of the country in the field of registration of small and medium-sized businesses, customs business, licensing, Investment Promotion lead to radical changes in the management and development of entrepreneurship.

That is why a number of national programs are being implemented in the country aimed at the development of agriculture, reforms, the introduction of new technologies. These reforms include measures to improve agriculture.

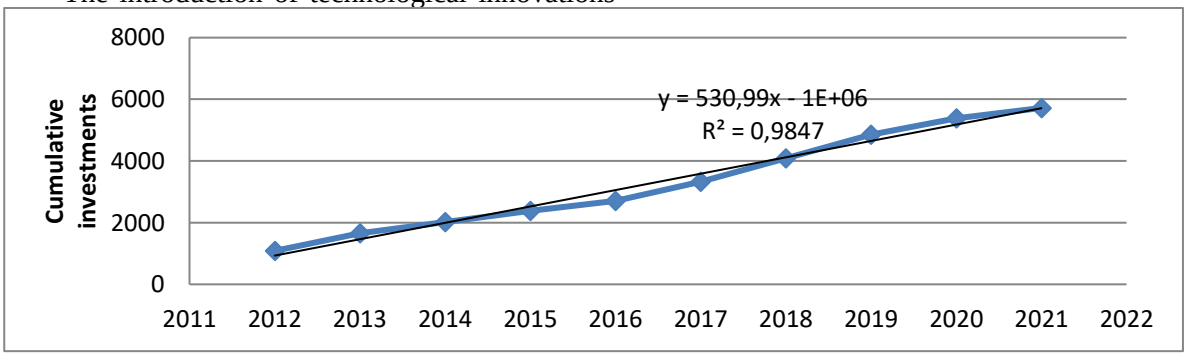

Fig 1 . Cumulative investments directed to agriculture, mln, man
Source: compiled by the author on the basis of the data of the State Statistics Committee of the Republic of Azerbaijan.

It should be noted that among the various factors affecting the volume of agricultural production, which has an ever-growing share in the GDP of its Republic, investments in this sector are of great importance and play an important role in social orientation[3]. In this regard, it is important to assess the impact of funds allocated to this sector on the total volume of agricultural products of the country.

As a result of the analysis, it can be concluded that the growth of production volumes in the country also led to the emergence of positive dynamics in the export of major agricultural products. During 2015-2022, the export volume of agricultural and agricultural processing products increased by more than 40% .

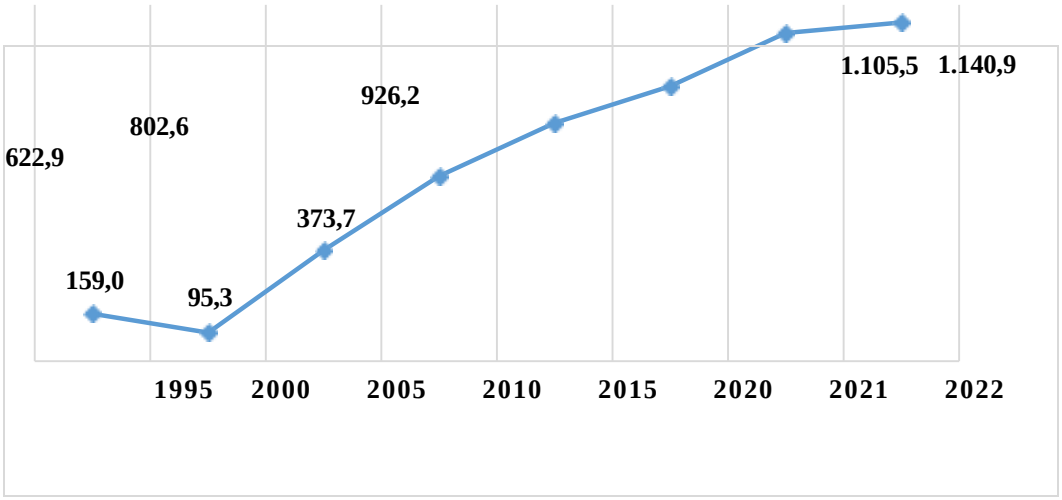

Fıg 2. The volume of agricultural and agricultural products, with actual prices, million USD
Source: *compiled by the author on the basis of the data of the State Statistics Committee of the Republic of Azerbaijan.*

In terms of value of exported products, more than 50% fell on fresh fruits and vegetables. Exports of fresh fruits and vegetables in natural terms during 2000-2022 increased by about 12 times, and by 2015-by more than 2 times, and in 2022 amounted to 625.9 thousand tons.

In the modern world, the agricultural system is moving towards increasing knowledge-intensive production. This is especially evident in the example of economically developed countries. Such an approach allows these states to maintain a balance of supply and demand in the domestic market, easily enter the leading world markets, and increase the competitive opportunities of national producers. Studies and analyzes show that important steps have been taken to expand the infrastructure in the application of innovation projects in agriculture.

By developing free entrepreneurship in the agricultural sector, in the field of application of techniques and technologies that meet modern standards in the field of agriculture, using new methods, etc. it is possible to raise production through the proper use of its material resources. First of all, agrarian science should have its say in the successful implementation of all these tasks. At the same time, specialists in this field should report scientific forecasts of the demand of Azerbaijani citizens for food products in the future, work on new methods that serve to increase the impact of the production process and manifest themselves in practice. In short, putting forward effective and established scientific forecasts in the agrarian sector is extremely important and on the agenda from the point of view of reliable provision of food security of Azerbaijan.

As can be seen from the graph, cumulative investments in fixed assets in the field of Agriculture demonstrated increased dynamics during the study period. The increase in cumulative investments directly conditioned the increase in the volume of gross output of this agriculture, which led to an increase in gross output in all years. It should be noted that along with all this, investments in the information and communication technologies (ICT) sector in the development of Agriculture and imports of products in this sector have increased the development of Agriculture along with other sectors of the economy. As a result, due to these factors, the use of innovative technologies in agriculture has led to increased labor responsibility and increased profits in this sector.

Conclusion

As a result of the research carried out, it can be concluded that in order to ensure innovative development in agriculture, it is necessary to apply the most efficient and necessary methods in the development of innovative activities of the agrarian sector. At the same time, it is necessary to determine the main criteria for their assessment by applying innovation in the agricultural sector. They are as follows: the development of innovation as

innovation, the degree of innovation and its compliance with the modern world level; the calculated growth of gross output and the improvement of quality indicators; maximum resource savings and cost reduction per unit of production.

In the field of Agriculture, the main goal should be aimed at improving the existing structure of arable land there, intensifying production, fundamentally updating agro-processing enterprises, and implementing projects of an innovative nature. All this is of great importance in the development of scientifically substantiated proposals and recommendations on the formation, development and use of the innovative potential of the agricultural sector.

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An effective approach for sustainable food production: aquaponics

Abdulkadir Bayır[1,*], Mehtap Bayır[2], Serpil Turhan[1], Haluk Çağlar Kaymak[3], Cem Işık[4], Bilal Usanmaz[5]

[1]Faculty of Fisheries, Department of Aquaculture, Atatürk University, Erzurum, Türkiye
[2]Faculty of Agriculture, Department of Agricultural Biotechnology, Atatürk University, Erzurum, Türkiye
[3]Faculty of Agriculture, Department of Horticulture, Atatürk University, Erzurum, Türkiye
[4]Faculty of Tourism, Atatürk University, Erzurum, Türkiye
[5]Faculty of Engineering, Department of Computer Engineering, Atatürk University, Erzurum, Türkiye

* Corresponding author:
Abdulkadir Bayır,
Department of Aquaculture, Faculty of Fisheries,
Atatürk University, 25240, Erzurum, Türkiye.
E-mail: abayir@atauni.edu.tr. Tel: +90-442-2312161[49]

Abstract

By 2050, the global population is projected to grow by 1.7 billion, reaching a total of 9.7 billion, which will require an increase in food production. Current farming methods, which depend significantly on chemical inputs, are not sustainable and lead to the depletion of freshwater resources. Additionally, factors such as climate change, pandemics, and conflicts exacerbate food security issues, affecting approximately 282 million individuals facing acute food insecurity in 2023. A sustainable alternative is aquaponics, which merges hydroponics with aquaculture; this method uses 90% less water and eliminates the need for synthetic fertilizers and antibiotics. The principles of a circular economy encourage recycling resources and reducing waste, which are in harmony with aquaponics practices. However, challenges exist, including high energy costs for operating these systems and the initial investment needed, highlighting the need for further research into sustainability. Green agriculture focuses on maintaining environmental health through environmentally friendly methods but often finds it difficult to compete with high-yield commercial farming. Implementing aquaponics on marginal lands can help bolster food security and create job opportunities for underprivileged communities. Furthermore, smart aquaponics incorporates technology to improve efficiency, though it demands considerable investment and expertise for optimal functioning.

Keywords: Aquaponics, Circular economy, Green agriculture, Smart Aquaponics, Sustainable food production, Ecology

Introduction

The global population is expected to increase by 1.7 billion, reaching 9.7 billion by 2050. As a result, there will be a significant need to increase food production to keep up with this population growth (1). One way to achieve this is through more intensive agricultural practices, which involve the increased use of chemical fertilizers, antibiotics, and pesticides per unit of land. However, this approach makes it challenging to produce clean and sustainable agricultural products using traditional methods. Agricultural activities consume 70% of the world's freshwater, creating further sustainability challenges (3).

Furthermore, various factors, such as climate change, the COVID-19 pandemic, and regional conflicts, complicate the issue of ensuring an adequate food supply (2). According to the Global Report on Food Crises 2024, around 282 million people urgently needed assistance due to acute food insecurity in 2023 (4). Given the limited freshwater reserves, it is evident that current agricultural practices are not sustainable, and water availability will be the key limiting factor for agricultural

This research was conducted under the AquaponicsOPTI project (Project ID: 123N039), which is supported by the BELMONT Forum (www.belmontforum.org) and TUBITAK (www.tubitak.gov.tr), involving researchers from seven countries across five continents.

production in the future. Concerning aquaculture, traditional aquaculture applications disrupt aquatic ecosystems through wastewater discharge, feed residues, antibiotics, and fish feces (5). Goddek et al. (6) indicated that ongoing advancements in agricultural productivity are unlikely to satisfy the anticipated global food requirements by 2050 and that an increase in the area dedicated to agriculture will be essential. On the contrary, the growth of urban areas and the rising extent of developed land pose significant dangers to agriculture, the natural ecosystem, and the ecological balance globally (7).

Aquaponics, a system that integrates hydroponics—a soilless plant-growing system—and a recirculating aquaculture system (RAS), offers an eco-friendly and sustainable food production method for a greener planet. Aquaponics has three main components: fish, nitrifying bacteria in the filtration system, and plants. Ammonia (NH_3) is converted to nitrite (NO_3) and then to nitrate (NO_2), which is utilized by plants as fertilizer through the nitrification mechanism in this system (Figure) (5). Water and land usage in this system is 90% less than traditional agriculture (8). Therefore, aquaponics systems have gained more attention in recent years for sustainable food production. Therefore, in this review, we will discuss aquaponics in the circular economy, green agriculture, and ecology manners.

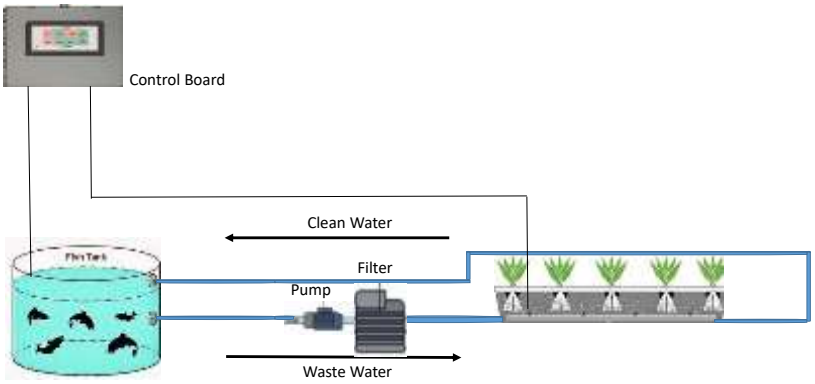

Figure. Representation of a coupled aquaponics system

Circular Economy and Aquaponics

The circular economy is gaining traction as a promising approach to sustainable living and responsible business practices. In contrast to the traditional linear model of consumption, which involves a "take-make-dispose" pattern, the circular economy advocates for a regenerative approach to reduce waste and lessen environmental effects; resources are recycled, and reused (9). The main concept of a circular economy in aquaculture revolves around promoting resource utilization through a cycle of recycling and reusing. This approach ensures a continuous and sustainable practice based on the idea of continuity (10). Aquaponics reduces fish wastes discharged into water, recycles water using pumps, and reuses it for fish and plant production, which perfectly aligns with the concept of the circular economy. However, the main issue that still needs to be addressed is the energy cost of the system; the pumps, heating or cooling of greenhouses, and lighting—especially in enclosed systems—require energy to operate. Therefore, decreasing the energy demand of aquaponics is one of the main challenges for the sustainability of this system. Renewable energy sources, such as solar and wind, would apply to aquaponics systems to increase the energy efficiency of the system. At this point, the initial setup costs of aquaponics are significantly higher than those of a traditional farm (11, 12). Therefore, more studies are needed to construct more sustainable aquaponics systems concerning the circular economy.

Green Agriculture and Aquaponics

Green agriculture is an approach to farming that prioritizes sustainability, environmental conservation, and ecosystem health. It involves practices such as organic farming, crop rotation, and agroecology to enhance soil fertility and biodiversity while reducing the use of synthenic fertilizers and pesticides (13). On the other hand, commercial agriculture focuses on meeting consumer demands and maximizing profits by producing the highest quantity of products in the shortest time. This type of agriculture relies heavily on intensive mechanization, pesticides, antibiotics, and synthetic fertilizers to yield greater quantities of crops, livestock, and fish compared to green agriculture (14). Despite the environmental harm caused by commercial agriculture and its focus on short-term profits rather than long-term sustainability, it still outcompetes green agriculture in terms of feeding the world. Aquaponics does not need synthetic fertilizers, antibiotics, and pesticides, it uses 90% less water than commercial agriculture and it is highly productive compared with green agriculture

(20-25 ton/ha/year crop) (6, 14). Therefore, when compared to green agriculture, aquaponics has the potential to compete with commercial agriculture.

Aquaponics for Rural Development of Marginal Lands and Disadvantaged Populations

Aquaponics systems are portable and can be constructed in marginal lands, such as deserts, barren areas, and high mountains (such as the Himalayas), for food production, even using brackish or marine water (15). These features of aquaponic systems are significant advantages for people living in marginal areas to have access to fresh, clean, and high-quality food. This is also important for rural development since aquaponics facilities provide job opportunities for local people. Yahya et al. (16) reported that wetland-aquaponics systems are portrayed as an attractive eco-friendly technology that can effectively address environmental challenges, ensure sustainable food security, and promote rural development.

The world is trying to cope with the increasing pressure of migration due to various reasons such as geographical risks, climate change, and poverty. Refugees must live in camps where it is generally not possible to access quality and healthy food, either temporarily or permanently. Aquaponics would be a good solution to provide these people, especially children and women, with nutritious food.

Smart Aquaponics

Controlled-environment agriculture (CEA) and vertical farming (VF) are advanced concepts. In these systems, plants and fish grow indoors using computers, the Internet of Things (IoT), and scientific methods to optimize their growth, increase product efficiency (e.g., harvesting the maximum amount of product from one acre), and maximize profit (18). Biosensors (e.g., dissolved oxygen, pH, electrical conductivity, and temperature sensors), computers, cooling or heating systems, and the internet are the main equipment used in CEA and VF as well. Vertical farming is usually applied to hydroponics in fully controlled (enclosed) environments. Since aquaponics integrates hydroponics and RAS, both CEA and VF can be applied to aquaponics. In this system, real-time data from biosensors are stored in computer or cloud systems. The data needs to be analyzed to provide the aforementioned advantages of CEA and VF, and IoT is used for these analyses. This way, the optimum amount of feed is provided to the fish, while the quantity and quality of water for the plants and fish are automatically adjusted, which is called smart aquaponics. One of the disadvantages of aquaponics systems is the need for daily monitoring, because the slightest error that may occur in the system could mean that the entire product will be wasted. Smart aquaponics eliminates all these problems and reduces labor costs. However, it requires high investment costs and technical knowledge (19, 20).

Conclusions

Considering the increasing world population, the increasing need for nutrients, climate change, geographical risks, and water scarcity, it has become necessary to develop effective, environmentally friendly, and sustainable food production systems. Aquaponic systems contribute to the circular economy and rural areas, can be established in marginal lands, and are an ideal solution to provide food to disadvantaged populations. However, the system's dependence on energy, high investment costs, and the need for qualified personnel are problems that need to be solved to be a sustainable and profitable system.

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Assessment of the current state of forest plantations

Melikov Adilaga Avaz oglu
Alibekov Said Rasulovich
Bozoglu Levent Bulent

Western Caspian University
E-mail: alibekov200522@gmail.com

Abstract
The current state of forest plantations of the Republic was studied on the example of Ismailli and Lankaran forest districts. During the studies, the issues of current state of forests, influence of mudflows, as well as anthropogenic influences in the form of cattle grazing and trampling of forest areas were assessed. ANR methods were applied in the studies, which provide for the assessment of natural regeneration of forest plantations, taking into account forest conditions. As a result of these works it was established that Ismailli forest areas in the last 20 years are subjected to different impacts and 20 hectares of forest were destroyed. In Lenkoran district less than 1 hectare of forests was exterminated during 10 years.

Key words: thinning, forest, ANR, forest plantations, forest area, regeneration, forest areas.

Introduction:

The territory of the Republic of Azerbaijan is 86.6 thousand square kilometers. Of these, 1213.7 thousand hectares (14%) is the area of the forest fund. The area covered by forests is 1021 thousand hectares. The share of forest areas is only 11.8% of the territory of the Republic, which is 2-3 times less than the accepted norm in the world practice, while in the XIX centuries this figure was 30-35%. The forest areas are: Kubin, Ismailli, Lenkoran, etc. We have conducted our research in Ismailli and Lankaran districts. In the last 60 years, few fundamentally modern research works have been carried out in forest plantations to determine the current state of these plantations. The available materials have fragmentary character. An example of this is the work of Sadiq Salmanov in the work Forests of Azerbaijan. During the research we took into account the results of the previously mentioned works and simultaneously studied soil and ground conditions and vegetation cover of this region. [1]

Materials and Methods

Forest plantations of Ismailli district were selected in the work: The scheme is presented in the figures. Natural conditions of these areas consist of the following parameters: Ismailli district - geographical coordinates Latitude: 40.635° N Longitude: 48.340° E. Average annual temperature - in Ismailli it is about 10-12°C. Summers in the region tend to be warm, with temperatures reaching 25-30°C, while winters can be cool, with temperatures around 0°C or below. Annual precipitation - In Ismailly, the amount of annual precipitation is approximately 800-1200 mm. Most of the precipitation falls in the fall and winter period (Fig.1). [2] .

Soil - Various types of soils prevail in Ismailli including: Chernozems - fertile soils suitable for agriculture. Serozems - found in higher areas, have good agronomic properties. Humus soils - rich in organic matter, also suitable for cultivation. Location - Ismailli is located at an altitude of about 600-700 meters above sea level. The district is located in mountainous terrain, which determines its climatic conditions and natural features. [2]

Lankaran Forest District - geographical coordinates Latitude: 38.750° N Longitude: 48.800° E. The average annual temperature in Lankaran district is about 14-16°C. Summers are usually warm, with temperatures up to 30°C, and winters are mild, with temperatures around 5-10°C. The amount of annual precipitation in Lankaran district is approximately 1200-1600 mm. This district is known for its humid climate, especially in the fall and winter period. (Figure 2) [3]

Figure 1. Schematic map of Ismailli forest district. [5]

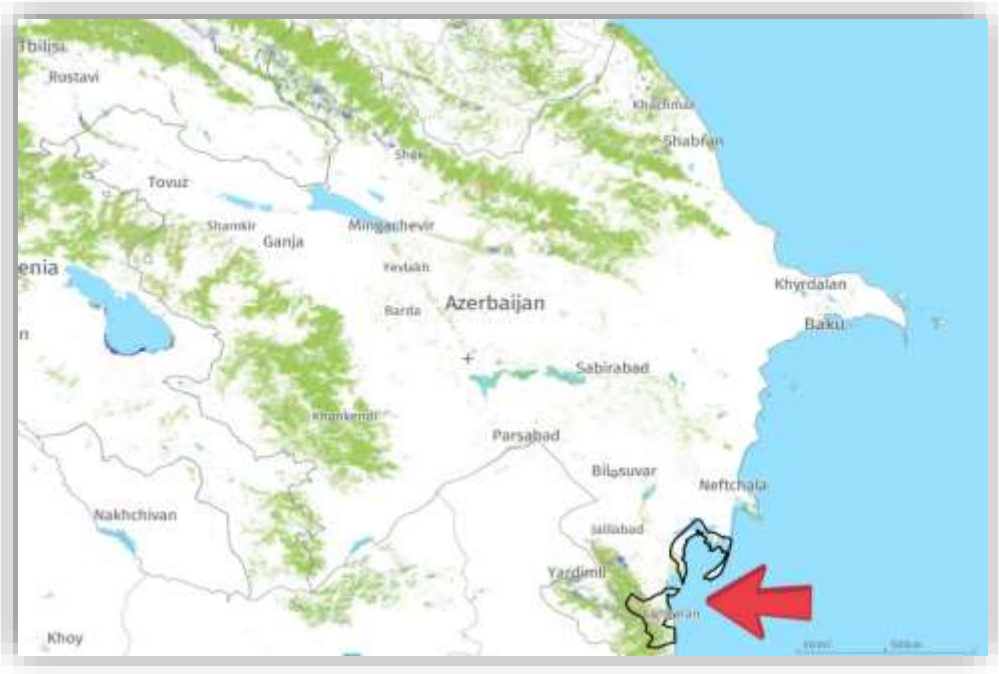

Fig. 2 Schematic map of Lankaran forest district. [5]

The following types of soils prevail in Lankaran district: Humus soils - fertile and rich in organic matter, which makes them suitable for agriculture. Serozems - are also found in this district and have good agronomic properties. Peaty soils - peaty areas may be found in some places, especially in lowlands. Lankaran district is about 10-50 meters above sea level as it is located in the lowland coastal zone of the Caspian Sea. [3]

Results:

Promotion of natural regeneration of the forest is to retain all viable young growth of economically valuable tree species that grew on the site before harvesting, after harvesting. In this case, some care will be required, and not only after the end of logging operations, but also on the clearcuts of 3 - 5 years ago, until the young trees are in full force and further continuation of their growth will not cause concerns. If desired and available funds (fertilizers are not cheap but effective), it is possible to feed the soil surface with mineral fertilizers; this will improve its composition, which contributes to the strengthening of the plants remaining on the harvesting area, but it

should be taken into account that the improvement of conditions affects not only the coniferous plants being restored, but also other plants that can choke them out. [4]

After harvesting is completed, the remaining trees immediately require care, “first aid”, which can only be provided by nearby loggers. This care includes: releasing and straightening of plants of valuable species pinned down by felling residues, returning partially twisted root systems to their place, filling bare roots with soil, cutting down dried and mechanically damaged plants, as well as cutting down weeds. [4]

The method of promoting natural regeneration (ANR) in the Ismailli Forest District is used to restore forest ecosystems and increase their sustainability. The main approaches include: Restriction of logging - minimizing interference in forest areas to preserve natural regeneration processes. Establishing protection zones - protecting areas where young trees can grow without interference. Sustainable resource utilization - sustainable use of timber and other forest resources to conserve ecosystems. Forest condition monitoring - regular assessments of the condition of forest stands to determine the effectiveness of interventions. Educating and informing local communities - involving local residents in forest restoration processes and raising their awareness of the importance of conservation. These methods help to maintain biodiversity and sustainability of forest ecosystems in the region. [4].

In the Lankaran Forest District, the method of promoting natural regeneration (ANR) is also actively applied to restore forest ecosystems. The main approaches include: Supporting natural growth - protecting existing forest areas and creating conditions for young trees to grow, especially in protected areas. Restoration of disturbed areas - using native plant species to restore degraded areas, thereby increasing biodiversity. Water conservation - protecting and restoring water bodies, which benefits the microclimate and promotes natural forest regeneration. Education programs - working with local communities to raise awareness of the importance of forests and sustainable forest management practices. Monitoring and research - regular observations of the condition of forest ecosystems to assess the effectiveness of the measures taken. These measures are aimed at maintaining the ecosystem functions of forests and improving their resilience to climate change and anthropogenic pressures. [4]

Conclusion:

In this paper, we have reviewed methods to promote natural regeneration of forests (ANR) in Ismailli and Lankaran districts. These approaches contribute to biodiversity conservation and ecosystem resilience, which is particularly important in the face of climate change. Further research on the effectiveness of different reforestation methods and their impact on local ecosystems is recommended. Sustainable forest management can be a key to protecting natural resources and improving the quality of life of local communities.

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Sustainable development implementation model mountain terrain

Ashraf Hassanov

Department of Finance and Management,
West Caspian University of Repablic of Azerbaijan
ashraf1951@mail.ru

Abstract

Mountains are repositories of the world's biodiversity. The United Nations declared 2002 the International Year of Mountains, which gave a powerful impetus to the activation of various mountain programs and projects. Mountains nourish ecosystems, support biodiversity, provide food and livelihoods for local people, and contribute to national economies. Mountains provide vital goods and services to all humanity and have the potential to support global sustainable development and lead the world towards a greener economy. Azerbaijan has 10 national parks, 10 state nature reserves, 2 unregistered reserves, 24 state nature reserves, 2,083 trees over 100 years old, 37 geological and paleontological objects, and 15,000 hectares of endemic and valuable forest areas. The area of specially protected natural areas in the republic is 500 thousand hectares and makes up 12% of the total area. A regional tourism development strategy

Key words: biological diversity, sustainable development of mountain regions, Program for the Development of Mountainous and High Mountainous Areas.

Among the many problems facing humanity around the world, the most important is the preservation of biological diversity, on which the very existence of Homo sapiens depends.

Meanwhile, the biota is most vulnerable to all stress factors, including anthropogenic ones. Currently, the world community is alarmed by the consequences of scientific and technological progress, which often has a transformative effect on the conditions of existence of humanity itself and on the biota, which is a source of food, oxygen, clean air, and raw materials.

In order to save biological diversity on Earth through international cooperation, the United Nations Convention on Biological Diversity was signed at the "Earth" summit held in Rio de Janeiro, Brazil, in June 1992.

The UN Conference, in its final declaration, emphasized the special situation and needs of the most environmentally vulnerable countries (Principle 6, Rio Declaration on Environment and Development). Based on this principle, Chapter 13 “Rational use of vulnerable ecosystems: sustainable development of mountain regions” was included in Agenda 21. The preamble to this chapter states that “mountains are an important source of water, energy and biological diversity. In addition, they serve as a source of valuable resources. As one of the largest ecosystems, mountains are of great importance for the survival of the global ecosystem.(4).

Mountains are repositories of the world's biodiversity.

The United Nations declared 2002 the International Year of Mountains, which gave a powerful impetus to the activation of various mountain programs and projects.

Mountains nourish ecosystems, support biodiversity, provide food and livelihoods for local people, and contribute to national economies. They are critical to economic growth, and preserving mountain landscapes is a key component of the Sustainable Development Goals and essential to a green and equitable future.

He verticality of environmental gradients allows life forms to coexist in the mountains, which would be separated by thousands of kilometers on the plain. Formed by gravity, the exceptionally diverse topography allows for even greater diversification of life forms, leading to unique biological diversity. Mountains are the cradle and refuge of many animals and plants. Half of the world's biodiversity hotspots are concentrated in mountains. Mountains provide vital goods and services to all humanity and have the potential to support global sustainable development

and lead the world towards a greener economy

But human activity puts these goods and services at risk. As arks of life, preserving much of the world's biodiversity, mountains are the key to conservation in a changing world.

Mountain biodiversity is a world heritage. Mountains cover about 27 percent of the Earth's surface and provide a direct source of livelihood for the 22 percent of the world's population who live in mountainous areas and foothills.

Over 50 percent of humanity benefits from the mountains, which act as the planet's water towers.

Mountains act as guardians of some of the most complex genetic pools of agricultural plants and animals and historical farming practices. The mountains abound with endemic species. But the mountains, with their beautiful landscapes, are home not only to a huge diversity of species and habitats, but also to a significant number of distinct ethnic groups that preserve unique remnants of cultural traditions, knowledge of nature and skills to adapt to their environment.

It is difficult to overestimate the importance of mountainous areas for the global ecosystem, given that: “48% of the entire land surface of the Earth is located above 500 m; 27% - above 1000 m; 11% - above 2000 m; 5% - above 3000 m and 2% - above 4000 m" [5]. 640 million people, or 8% of the world's population, live in mountains at altitudes above 1000 m. Of these, approximately 560 million people live at altitudes from 1000 to 2000 m, from 2000 to 3000 - a little more 50 million and above 3000 m - 30 million people” [7].

The consequences of anthropogenic impact on large mountainous areas are tangible and often irreversible. Human activity has a strong impact on the global climate and, as a consequence, on mountain ecosystems. Due to their height, slope angle and direct exposure to the sun, mountain ecosystems are easily destroyed by climate change.

As the planet warms, plants and animals migrate to new heights and, given that the area of mountains decreases with height, species competition for the upper regions and their limited resources increases. As a result, rare species may be displaced over time. The main challenge posed by rising temperatures is the rate of change: the rate of ongoing and expected climate change is much faster than evolution and species migration can most often cope with. Human interactions with regional species and climate-influencing factors have shaped mountain biodiversity for centuries.

Over the past forty years, the area of protected areas has increased 6-8 times, mainly in mountainous areas, increasing from 9 percent of the total mountain area in 1997 to 16 percent in 2022.

In addition, over the past two decades, a number of intergovernmental and non-governmental organizations have been created, such as the International Center for Integrated Mountain Development (ICIMOD), the Mountain Partnership,

Global Mountain Biodiversity Assessment (GMBA), Euromontana, Adelboden Group and many others, which aim to improve the lives of mountain populations and protect mountain ecosystems around the world.

Taking the totality of both the natural and spiritual resources of mountains, we can say that in addition to providing for the needs of about 10% of the world's population, mountains play a vital role in the well-being of more than half of humanity.

Along with traditional forms of international cooperation, new ones are also actively developing, as evidenced by the Mountain Forum formed in 1995 in Lima.

The Mountain Forum is a global network of various institutions and individuals connected by mutual support, exchanging information and promoting ideas for the sustainable development of mountain regions.

The organizational structure of the Mountain Forum is a decentralized conference of regional (continental) networks. These include: Asia-Pacific, African, European, Latin American and North American.

The forum’s activities are coordinated by a triumvirate of well-known mountain centers - the International Center for Integral Mountain Development (ICI-ID), the Mountain Institute (West Virginia, USA) and the Potato Center in Lima (Peru) [6].

Azerbaijan has 10 national parks, 10 state nature reserves, 2 unregistered reserves, 24 state nature reserves, 2,083 trees over 100 years old, 37 geological and paleontological objects, and 15,000 hectares of endemic and valuable forest areas.

The area of specially protected natural areas in the republic is 500 thousand hectares and makes up 12% of the total area.

Our republic is one of the richest countries in the world in terms of biodiversity. Our territories include 18 thousand species of fauna, 97 species of mammals, 357 species of birds, about 100 species of fish, 67 species and subspecies of amphibians and reptiles, and about 15 thousand species of insects.

"Program for the Development of Mountainous and High Mountainous Areas" concluded between the International Fund for Agricultural Development (IFAD) and the Government of Azerbaijan Republic of Azerbaijan on March 14, 2000.

At the "Earth" summit held in Rio de Janeiro, Brazil, in June 1992, the President of the Republic of Azerbaijan, dated March 24, 2006, joined the United Nations Convention on Biological Diversity and fulfilled the obligations arising from it at the national level. The "National Strategy and Action Plan for the Protection and Sustainable Use of Biological Diversity in the Republic of

Azerbaijan" covering the years 2006-2010 was approved by Decree No. 1 368, and the planned measures were successfully implemented. Up to 60 percent of the country's territory is occupied by mountainous areas.

There are about 80 mountains in the territory of Azerbaijan, which has a rich nature. The peak of Bazarduzu, which rises to a height of 4466 m, is the highest point of Azerbaijan. The height of Shahdag peak is 4243 meters, Tufandag is 4205 meters, Kepaz mountain is 3066 meters, Gömürgoy is 2493 meters, Ilandag is 2415 meters.

Azerbaijan has 64 districts, 11 republic subordinate cities,[1] 12 city districts, 262 settlements, 1724 rural territorial districts and 4244 villages.

By the Decree of the Cabinet of Ministers of the Republic of Azerbaijan dated February 15, 2003, elevations over 200 meters from ocean level are considered mountainous places and include 46 districts of the republic.

According to the Strategy for Socio-Economic Development of the Republic of Azerbaijan in 2022-2026.(3)

Azerbaijan will host the 29th session of the Conference of the Parties to the UN Framework Convention on Climate Change - COP29 - in November 2024.

The United Nations Framework Convention on Climate Change, UNFCCC, is an agreement signed by more than 180 countries around the world, including all countries of the former USSR and all industrialized countries, on general principles for countries to act on climate change. The Convention was officially adopted at the Earth Summit in Rio de Janeiro in 1992 and entered into force on March 21, 1994.

As a result of the closure of rural industries after the collapse of the Soviet Union, the marginalization of mountain regions increased. In addition to the challenges of remoteness, difficult climatic conditions and sensitivity to environmental degradation and natural disasters, mountainous areas face a number of specific, serious problems that require attention:

- high level of unemployment;
- unregulated and unsustainable tourism, which, on the one hand, does not contribute to local living standards and, on the other hand, undermines environmental sustainability;
- limited access to markets for local agricultural products and traditional crafts;
- division of land plots and limited sustainable use of natural resources;
- poaching;
- migration processes;
- lack of public financial resources to address the above issues.

In Western countries back in the twentieth century. realized the need to use completely different tools to stimulate development for mountain areas.

Switzerland can be cited as the most successful example of the development of mountain areas, which consistently pursues a policy for the development of mountain areas. Note that the conditions of mountainous areas are taken into account in countries such as France, Italy, Switzerland, Austria, which have adopted their own “mountain” laws.

The development of a regional tourism development strategy is based on the image of the desired future, which is largely determined by existing problems and is reflected in the strategy in the form of goals. Planning the development of the tourism industry, like any complex system, requires assessments of the quantitative and qualitative patterns of its functioning processes, which can be obtained on the basis of a set of mathematical models. The use of mathematical modeling allows for forecasting in complex systems and making effective management decisions regarding the choice of paths for further development.

Using the method of linear regression of panel data, it is necessary to estimate the per capita growth of Gross Regional Product for mountainous regions in the regions of the Azerbaijan Republic in the period from 2000 to 2023.

Figure 1.Conventionally, the scheme for implementing the sustainable tourism development strategy is shown in

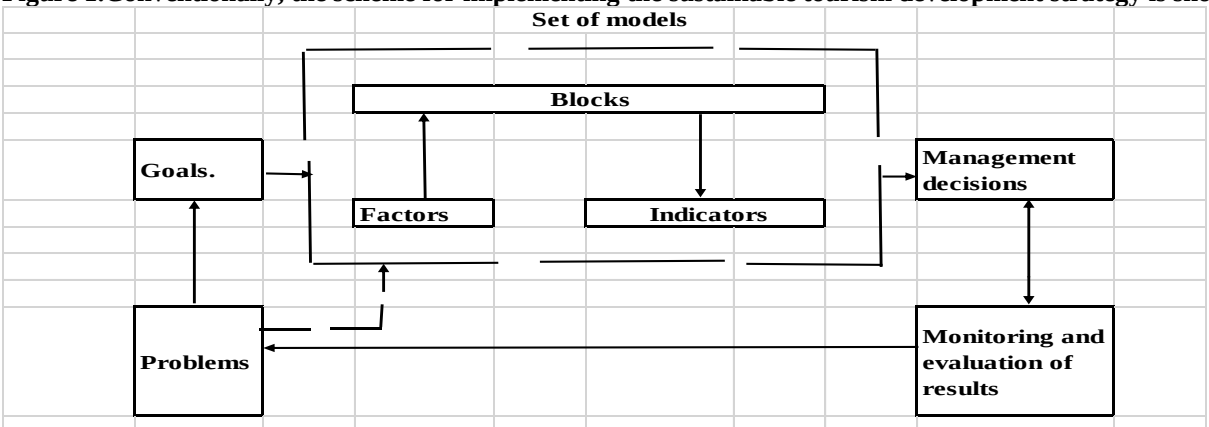

Figure 1 - Scheme of implementation of the strategy for sustainable development of mountainous areas

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Spiritual tourism trend and perspectives: The case of Azerbaijan

Farid Zaur oglu Aliyev
Asiman Guliyev

The word “spiritual” is derived from the Latin “spiritu,” meaning “soul.” Generally, there are two main ideas regarding spirituality. One suggests that it indicates a person's existence within the cosmic realm and the desire to find purpose in that existence. The other reflects belief and faith in the authority of a God who governs the entire universe. Most historians have shown interest in substituting spiritual tourism for religious tourism, leading to differences in interpretation between the two concepts [21]. Although spiritual tourism is used for various purposes, such as healing and atonement, it remains a relatively unknown phenomenon within the tourism sector, despite its ancient history. It is rooted in tourism itself and represents one of its oldest forms. The long-standing preference for visiting sacred religious sites like Mecca, the Vatican, and Bethlehem in India exemplifies this trend [13].

Spiritual tourism is based on the philosophy that “the more challenging the journey, the greater the reward,” contrasting with the typical comforts of daily life [12]. At its core, spiritual tourism embodies the desire to find one’s inner self through difficult and ordinary experiences. This quest for self-discovery is not solely a religious pursuit; it also addresses broader spiritual concerns. While spirituality has always been associated with religion, it is also linked to journeys into nature, rural areas, relaxation, culture, and health. Spiritual tourism, encompassing all these fields, provides tourists with opportunities for solitude, allowing them to shape their lives [11].

On a global scale, the rise in psychological problems has led people to seek solitude for spiritual meditation and relaxation [26]. This search has compelled individuals to pay more attention to spiritualism, transforming it into an increasingly important issue in the realms of social, health, and business. In recent years, there has been a significant increase in travel to spiritual and cultural sites [19]. For a place to be considered spiritual, it is expected to possess extraordinary qualities beyond just religious elements. Spiritual tourism is a comprehensive term that includes religion as a sub-segment but allows people to discover more than just religious aspects.

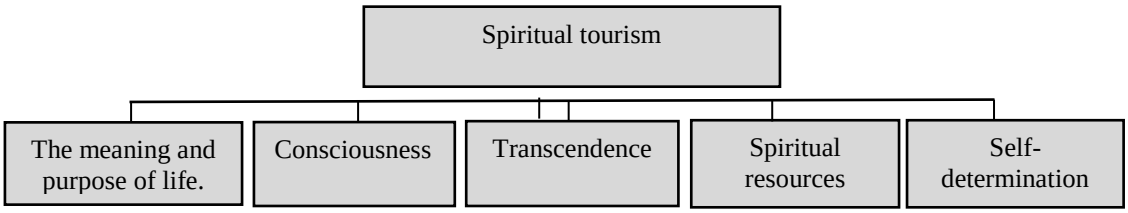


Figure 1. Trends influencing spiritual tourism
Source: Prepared by the author.

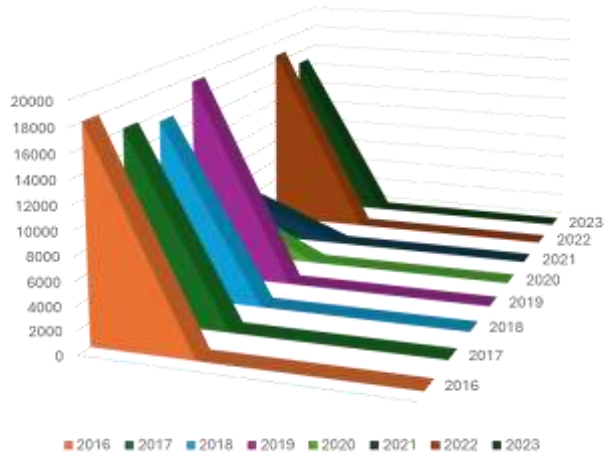
This model (Figure 1) consists of five interconnected themes and constructs that influence spiritual tourism. It provides a systematic approach for us and other researchers to conduct future studies on spiritual tourism. The conceptual model of spiritual tourism illustrates that travelers are capable of finding relaxation through various tourism activities, such as yoga, meditation, contemplation, and others [4].

Looking deeper into history, the foundations of spiritual tourism were particularly established through religious pilgrimages and temple tourism. Participants in this activity, referred to as spiritual tourists, are generally identified as those who visit spiritual places for self-discovery, regardless of any religious influence in the country or region they are interested in [1]. Muslims performing pilgrimage, Buddhists visiting sacred sites in India and Nepal, and Christians traveling along the designated pilgrimage route of El Camino de Santiago (The Way of Saint James) are considered "spiritual tourists" [6].

In the literature, spiritual tourism is defined as "a physical journey in search of truth, the sacred, or the holy" [20]. As a result, spiritual tourism is more closely associated with places regarded as sacred. Examples include the Vatican for Catholics, the Ganges River, temples and ashrams for Hindus, and Mecca and its holy sites for Muslims [17]. Below is a graph created based on statistics from the official website of the Central Bank of Saudi Arabia, illustrating the number of tourists arriving in Mecca and Medina:

Period	Number of Incoming Tourists	Period	Number of Incoming Tourists
2016	18.045	2020	4.138
2017	16.109	2021	3.476
2018	15.335	2022	16.637
2019	17.527	2023	14.811

Diagram 1.



Source: https://sama.gov.sa/en-US/Pages/default.aspx

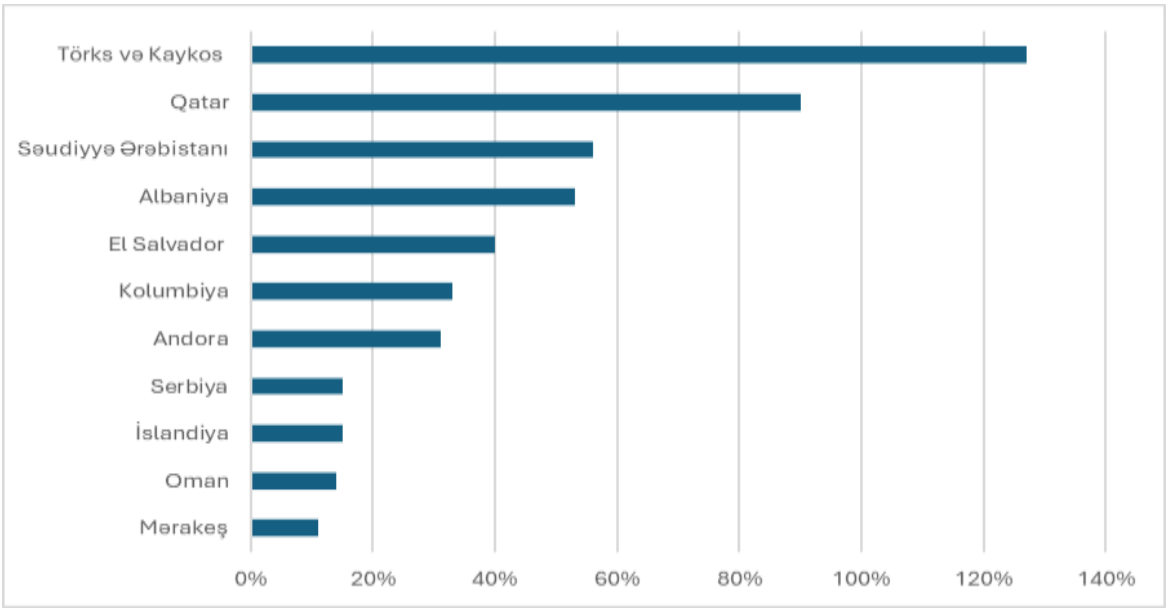
However, the concept of spirituality is not limited to Islam. It is also relevant to other religions and is interconnected with them. In Hinduism, spiritualism is related to the individual's effort to strengthen their connection with Atman (the soul) and to realize their spiritual potential. Atman is regarded as the eternal soul and the source of life energy. Practices associated with spiritualism include yoga, meditation, mantra repetition, and dharma. Japa and the repetition of mantras are among the spiritual practices [9, 10].

The spiritual tourist is interested in spiritual fulfillment that helps in self-discovery. In Schaar's research, spiritual tourists are classified into three groups [14]. These types of tourists are as follows: A: Non-spiritual tourist; a tourist who shows no interest in spiritualism and simply enjoys the sea, sand, and sun, B: Pure spiritual tourist; a tourist who seeks spiritualism and finds their identity, C: Athletic spiritual tourist; a sporty spiritual tourist who participates in yoga activities, D: Experienced tourist; someone who has previously engaged in spiritually purposeful travels, E: Cultural tourist; a tourist interested in visiting cultural attractions and events, F: Health tourist; a tourist who combines their holiday with "medical" treatments and G: Religious tourist; a tourist who visits temples and shrines.

The first international conference on spiritual tourism was held in Ninh Binh in 2013, initiated by Taleb Rifai, the Secretary-General of the United Nations World Tourism Organization (UNWTO). At the conference, UNWTO recognized Vietnam as an important country in the field of spiritual tourism. This has created depth and vibrancy for Vietnamese culture and its spiritual community in the East Asia region [18]. According to data from the UNWTO, approximately six hundred million national and international religious-spiritual and spiritual journeys occur each year. Of these destinations, 40% are located in Europe, while more than half are in Asia. According to Ebadin (2014), when people visit any religious or non-religious site, they perceive this journey as a form of nostalgia, culture, or even

adventure [18]. Based on information from the UNWTO, World Tourism Rankings by countries have been noted regarding the increase in international tourists:

Diagram 2.



Source: https://wptravel.io/world-tourism-ranking-by-country/

Based on the changes in international tourist arrivals since 2019, the Turks and Caicos Islands lead with a +127% change. Following them, compared to 2019, tourist arrivals in 2023 have increased by +90% in Qatar, +56% in Saudi Arabia, +53% in Albania, and +40% in El Salvador. The Turks and Caicos Islands are experiencing growth in tourism due to their popularity as a cruise ship destination. As of October 2023, data indicates that over 491,000 cruise passengers have visited the islands. Additionally, Qatar and Saudi Arabia have attracted many international tourists by leveraging sports events and spiritualism [22].

When people choose spiritual tourism destinations, they increasingly rely on reviews from others on websites. Below are the spiritual tourist evaluations examined within the framework of the study:

Table 1.

Thesis	Destination	Country	Site	Review
Inner Journeys	Sedona	America	Tripadvisor	381
Body and Mind Healing	Chang Mai	Tailand	Tripadvisor	145
Nihue Rao Centro Ayahuasca Retreat	Iquitos	Peru	Ayadvisor	113
Yoganga Ruhani Retreat	Rishikesh	India	Tripadvisor	95
Arkana Spiritual Center and Amazon Valley	Urubamba	Peru	Ayadvisor	30
Watukaru Yoga and Meditation	Bali	Indonesia	Meditation Retreats	25
Zen Meditation Retreat	Oita	Japan	Meditation Retreats	16
Himalaya Meditation Retreat	Siem Reap	Cambodia	Meditation Retreats	13
			Total:	818

Source: Prepared by the author.

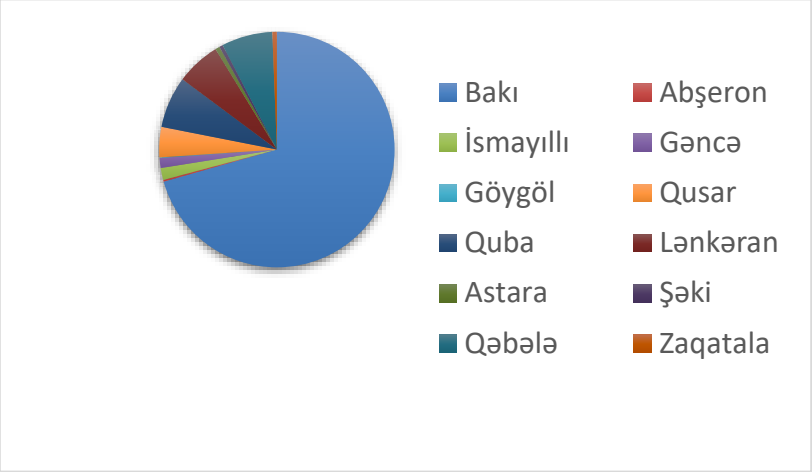
The data in the table was collected based on reviews posted on popular travel websites to assess the evaluations of travelers who have experienced spiritual tourism in various countries and to determine the diversity of the information. For this purpose, data was gathered from three popular travel sites: Tripadvisor, Ayadvisor, and Meditation Retreats.

To study a country's spiritual tourism potential or to clarify whether it aligns with spiritual tourism activities, it is essential to pay attention to certain nuances [5]. For spiritual destinations, it is important to have distinctive qualities that highlight their spiritual and moral essence. Considering Azerbaijan's rich history, religious heritage, and spiritual resources, the potential for spiritual tourism is very high. According to the State Statistical Committee of the Republic of Azerbaijan, the number of tourists accommodated in the districts has been recorded. The main objective of the study is to measure the number of tourists accommodated in districts recognized as spiritual sites. This data illustrates the number of tourists in these areas recognized as spiritual locations. Based on the

mentioned data, a diagram has been prepared. The number of people accommodated in the districts (persons):

District	NPA	District	NPA
Baku	996428	Ganja	19339
Quba	100076	Zagatala	8853
Qabala	98728	Astara	8568
Lankaran	85795	Shaki	7104
Qusar	58699	Absheron	3316
Ismayilli	23125	Goygol	1116

Diagram 3.



Source: https://www.stat.gov.az/source/regions/

The main factor influencing the potential of spiritual tourism in Azerbaijan is the country's multicultural nature. The potential for spiritual tourism in Azerbaijan is extremely rich and robust [16]. One of the natural destinations for spiritual tourism in the Quba region of Azerbaijan is the Quba Khanyan Cave. This cave consists of a narrow underground cavity within the mountain and is considered a significant site, especially for the Muslims living in the area [8]. Another spiritual tourism destination located in the Xanchoban village of the Quba region is the Xanchoban Mausoleum. This mausoleum holds great spiritual significance and provides a sense of spiritual closeness and reverence for those visiting for spiritual and contemplative purposes [3]. The Bibiheybat Mosque, located in the city of Shamakhi, has consistently attracted the attention of tourists. The construction of the mosque dates back to the 11th century, making it one of the oldest mosques in the region. Bibiheybat Mosque is noted for its unique architectural style. The name itself carries a fashionable and spiritual connotation; "Bibiheybat" in Persian means "bounty house," relating to its establishment during the Persian period. In Persian, “bəhər evi” translates to “house of bounty,” while in Azerbaijani, it means “house of spring.”

Sustainability has been identified as the most developed concept in discussions about the development of spiritual tourism [2]. It is defined as “the use of a certain ecosystem in a way that ensures its sustainability, without overuse and degradation” [15]. The concept of sustainability was defined in the Brundtland Report (WCED, 1987) as “meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.” Since the early 1970s, sustainable development has become an integrative concept for environmental planning [7]. The United Nations Stockholm Conference held in 1972 marked the first major international meeting on sustainable development. Following this, the UNCED Conference was organized in 1987. Politically, the ideals of sustainability were emphasized at the UNCED Conference in 1987, the Earth Summit in 1992, and the implementation of Agenda 21. In 1992, discussions were held at the United Nations Conference on Environment and Development (UNCED), which involved over 170 countries, focusing on issues such as biodiversity conservation, climate change, deforestation, and improving quality of life [21].

At the conference known as the "Earth Summit" and the "World Summit," it was emphasized that, in addition to economic activities, it is crucial to consider values related to the environment, natural resources, and their utilization, conservation, and management. At the end of the conference, five main

documents were created. These documents are: the Rio Declaration, Agenda 21, the United Nations Convention on Biological Diversity, the United Nations Framework Convention on Climate Change, and the United Nations Convention to Combat Desertification (T.C. Ministry of Environment and Forestry).

As the research indicates, spiritual tourism is pursued for various purposes, with the primary ones being spiritual reflection and religion. In the spiritual realm, the main objective of spiritual tourism is based on the principle of "self-discovery."

According to this principle, people strive to understand their ancestors by delving deep into their civilization and seeking their true identities. The data gathered shows that, alongside personal goals, spiritual tourists also aim for the unification of humanity to ensure world peace and the protection of the planet. The development of this type of tourism will contribute to global peace and the future, as well as foster a caring approach towards the environment.

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Bank credit policy in the development of small and medium-sized enterprises

Aydin Rafiev

Candidate of Economic Sciences
Western Caspian University
E-mail: aydinrafiyev@hotmail. com; Тел.: 050 2259102

Abstract

According to the "Strategic Roadmap for the Production of Consumer Goods in Azerbaijan at the Level of Small and Medium-Sized Enterprises," five strategic goals have been identified to achieve the diversification of the country's economy through the dynamic development of the non-oil sector, increase in added value and employment in the production of consumer goods at the level of small and medium-sized enterprises, sustainable economic growth, and improvement of the population's living standards, taking into account the available resources and the use of regulatory and incentive policies in this sector. These include improving the business environment and regulatory framework for small and medium-sized enterprises (SMEs), ensuring favorable and effective access to financial resources for SMEs, increasing internationalization and access to foreign markets, and enhancing the knowledge and skills of SMEs.

Key words: Economic, the crediting of small business, small business, small and middle business, the developing of business.

The effectiveness of the development of small and medium-sized businesses largely depends on credit opportunities and the service packages provided by financial institutions in the country. The progressive development of Azerbaijani businesses is hindered by high bank interest rates. Many organizations cannot finance large projects due to a lack of assets; some do not have liquid collateral. Currently, the country lacks an effective investment attraction mechanism, and there are no unified criteria for assessing borrowers across financial and credit institutions. As a result, lending to small and medium-sized businesses is associated with increased risk for commercial banks. Insufficient resource bases further impede lending to SMEs. Overall, the role of Azerbaijani banks in the formation and recovery of local production is at a very low level. This is primarily due to the limited resources allocated by banks in this direction. As a result, Azerbaijan’s credit market is primarily focused on consumer goods lending, while those interested in small and medium-sized businesses struggle to find financial resources. It is no coincidence that in 2022, banks allocated only 6% of loans to industry and production, 4.5% to agriculture, and 30% to the trade and services sectors. For banks, lending to consumer goods at high interest rates is attractive. It should be noted that previously banks directed loans mainly to the real estate market, where they expected high returns from apartment sales, often financing or co-financing construction. However, due to stagnation in the real estate market, banks redirected their credit resources to the auto and consumer goods markets to gain high interest rates.

Secondly, interest rates on loans remain excessively high. Banks offer external and internal resources at high rates. For example, before the global crisis, interest rates on loans offered by commercial banks exceeded 30%. Currently, despite a slight decrease, interest rates still remain high compared to global markets. Banks issue loans at rates between 15-28%, which are quite high. Interestingly, the Central Bank does not influence the discount rate or the provision of financial resources to banks. For instance, despite the Central Bank lowering the discount rate to 2%, banks continued to issue loans at 20% and higher. Banks aim to make high profits in a short period by offering high-interest loans, making it difficult for clients to

repay. On one hand, high-interest rates lead to an increase in problematic loans, hindering local production development. Therefore, urgent measures are needed to solve this issue. The development of small and medium-sized businesses is impossible without reducing loan interest rates.

Thirdly, the conditions for issuing loans, particularly collateral requirements, are very stringent, making it difficult for entrepreneurs to form start-up capital. Banks impose these conditions to secure their loans, but this, in turn, stifles the development of SMEs. Therefore, state banks should find solutions to guarantee the loans they issue.

A unique feature of Azerbaijan's financial system is that promissory notes are almost never used: a) simple promissory notes, which directly obligate the borrower to repay a fixed sum to the lender; b) bills of exchange (drafts), where legal entities involved in production or sales act as creditors. Additionally, a mechanism for attracting loans has not yet been implemented due to the lack of an automated borrower evaluation system. The introduction of such a system is hindered by the low profitability of SMEs. Loans should be used to form working capital and expand production processes within SMEs, and a comprehensive restructuring of loan liabilities to the budget and collateral should be carried out by transitioning to international financial reporting standards. Measures should also be implemented to prevent loan defaults.

Consequently, credit and financial institutions will be able to expand and strengthen their positions in this process by improving loan programs. This includes early loan repayment with a corresponding reduction in payments without penalties, automatically debiting loan payments from the client’s salary.

At present, returnable bank financing for SMEs is being introduced using warehouse receipts in three loan models under collateral. REPO transactions with warehouse receipts allow the lending institution to manage this security as it sees fit. Here, no repayment of borrowed funds occurs, which is significant for small businesses, as they often have substantial merchandise that could serve as collateral.

This is particularly important for agricultural enterprises, which often lack sufficient collateral to secure loans, despite the establishment of cooperatives in some regions to jointly address issues of guarantees before banks.

A significant obstacle to subsidizing SMEs in small settlements is the lack of bank branches, as financial organizations find it unprofitable, and only 5% of credit institutions use postal transfers for financial transactions. The underdevelopment of the banking system in such municipalities results in a shortage of credit resources for the growth of agricultural production, modernization of private farms, and ensuring the competitiveness of domestic products. For the sustainable development of SMEs, a comprehensive approach by national and regional ministries and departments to project implementation is required, as credit for this sector is of great importance and covers a wide range of needs.

Overall, investments are one of the key factors for the development of SMEs. To ensure their effective use, a legal framework is needed to create transparency in the relationships between the government, lenders, and borrowers, thus strengthening this sector within the country's economic system. In general, bank lending operations for businesses are beneficial for both the bank and the entrepreneur. For the bank, it provides the opportunity for stable future interest income, ensuring profitability, diversifying the loan portfolio, and improving financial stability.

For entrepreneurs, bank loans open up new opportunities for developing new types of economic activities, introducing investments and innovations, increasing sales volumes, optimizing financial flows by saving on working capital, transferring interest to the cost of production, and providing credit mobility.

However, in recent years, there has been a slowdown in the growth of credit investments in SMEs in Azerbaijan, which is explained by negative trends in global capital markets, reduced bank liquidity, increased interest rates, and stricter bank requirements for assessing clients' creditworthiness and collateral quality. At the same time, there is significant differentiation in interest rates across economic sectors, with household rates being higher than those for non-financial corporations.

One of the main problems hindering the restoration of active bank lending is the significant volume of non-performing loans. To address the issues of SME lending, it is necessary to first increase the volume of long-term attracted funds by enhancing trust in the banking system. To achieve this, risks should be minimized by:

Building a management system based on special principles: systemicity, alignment of investment goals and methods of achieving them, integration of the bank's investment and financial strategies, and development of competitive advantages. Banks should focus on investment and innovation projects aimed at enhancing the competitiveness of the economy.

Raising qualitative requirements for loan security, for example, using mortgage or adopting the experience of South Korea, where loans are secured by a deposit account, into which periodic contributions are made. Loans should only be issued

after at least one-third of the future loan amount is accumulated in the deposit account.

More thoroughly assessing risks during the loan evaluation stage, taking into account not only actual financial statements from the past two years but also projected cash flows.

Applying scientific approaches to pricing, so that the profitability of investments, such as long-term loans for 5 years, amounts to 40.40%, and for 20 years – 159%. As a result, banks will become more interested in issuing long-term loans that will enable enterprises to implement investment projects aimed at increasing the volume and quality of products, which, in turn, will lead to growth in account turnovers and additional commission income for banks.

Conclusions: Solving the outlined problems requires a comprehensive approach and close cooperation between banks, enterprises, and the government. In a context of ongoing global uncertainty, the solution lies primarily in the political and legal sphere. The main regulatory measures of monetary, fiscal, and budgetary authorities should be aimed at stabilizing the economy, creating a predictable long-term attractive investment climate, and improving the efficiency of bank lending, primarily by stimulating SME lending in Azerbaijan. At the bank level, a system of loan provision and implementation should be built based on the interests of all economic entities. At the same time, banks should take measures to minimize lending risks by building a management system for lending activities based on scientific approaches to increasing the resource base, boosting revenues, and preventing risks.

Annotation

The main problems in the credit sector for small and medium-sized businesses in the economy of Azerbaijan are analyzed in this article. It is shown that it is possible to overcome the imbalance between the credit needs of businesses and the capacity of banks with the help of an improved banking system.

Banks need to build a system that makes credit more accessible for entrepreneurs. Additionally, banks must minimize the risks of lending by improving their systems, based on scientific methods to increase the resource base, boost income, and mitigate risks.

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The weight of inbound tourism in Azerbaijan’s socio-economic growth and the country’s potential for attaining leadership in the Transcaucasian region.

Nigar Bagirova,

Western Caspian University,Baku,Azerbaijan

Abstract

Energy resources constitute the foundation of economic security in any nation. In Azerbaijan, they constitute the foundation of the national economy. Amid the prospect of natural resource depletion and price instability, the diversification of the national economy is becoming increasingly critical. The significance of this issue escalates during geopolitical tensions, the risk of devaluation, and a reduction in foreign exchange revenues. A method of diversification is the advancement of the tourism sector. Tourism ranks as the third most lucrative sector of the economy, influencing GDP growth, foreign exchange gains, and interconnected economic sectors. Recent global economic crises, such as the 2008 financial crisis and the 2019 pandemic, have underscored the significance of the tourist sector for developing nations, like Azerbaijan.

In light of the conclusion of the Second Karabakh War and the potential for the advancement of the Middle and Zangazur corridor, the chances for the growth of the tourism sector have expanded. International tourism in Azerbaijan commenced its development in the 2000s. The government has implemented initiatives to foster industry development, including the "Law on Tourism Activities" and several tourism development programs. However, the data indicates that the country possesses significant untapped tourism potential. The findings of this study can be utilized to advance the tourism sector.

Keywords: tourist multiplier, neuro-tourism, tourist spending, international tourism

Introduction

Economic growth is stimulated by the expansion of tourism, including inbound tourism. Herein forth the notion “multiplicator” will be applied (a term that hails from the Latin word multiplier, shows how many times the income will take a leap in response to a particular bump in investment). After R. Kahn's introduction to economic literature in 1931, this concept was first discussed. Both J. M. Keynes and P. Samuelson played a significant role in the study of the multiplier. Tourist multipliers are coefficients that illustrate the extent to which the country's revenue is influenced by the expenditures of visitors.

Azerbaijan's involvement in fostering partnerships and promoting inbound tourism also entails commitment to the development concept. Sustainable development enhances the economic, environmental, and social interests of the host society receiving tourists in the country. To guarantee sustainability, a segment of the revenue generated from tourism is essential for the maintenance and rehabilitation of tourism resources. Sustainable tourist development promotes economic growth while maintaining a conscientious approach to nature and preserving historical and cultural assets, so positively influencing the societal economic structuring process. [4, p. 198]

In 2004, the UNWTO offered a comprehensive definition of sustainable development.

- sustainable tourism development, meeting the needs of tourists today, must preserve opportunities for the future;
- management of tourism resources, while meeting economic and social needs, must preserve cultural integrity, biological diversity and the life support system;
- sustainable tourism products must benefit tourism development and be consistent with the local environment, society and culture. [5, p14]

Literature references

The economic multiplier impact of tourism was extensively researched in the 1970s by B. Acher, Fletcher, and others. Abbas, Sohag, and Suleman

examined the significance of international tourism for national economies, focusing on its impact on investment levels in South Asia. Acher investigated the effects of domestic tourism on the economy and the relevance of the regional multiplier. Werner, Alzua-Sozrabal, and others examined the impact of information technology on tourism development.

Neuro-tourism is an emerging topic in the field of tourism. Atsalakis et al. investigated this issue with the prediction of success in tourism following the application of neuro-technologies. Giudigi, Dettori examined the potential applications of neuro-tourism. Neuro-tourism pertains to the application of brain research methodologies utilized in neurophysiology. From this perspective, the research interests of neurophysiologist Bekhtereva are noteworthy.

Methodologies

This study employs:

• statistical methodology - the collection and analysis of statistical data pertaining to the evolution of international tourism;

• economic methodology - the examination of economic indicators associated with the advancement of international tourism;

• historical methodology - the investigation of the historical progression of international tourism and the application of novel concepts.

Outcomes

Let us examine the economic aspect of sustainable tourism more closely via the lens of the tourism multiplier concept. Initially, we shall compare many variables that characterize the development of tourism in Azerbaijan and Georgia. Georgia is the foremost in profitability and tourism visitation inside the Caucasus region. Georgia is ranked 68th in the World Economic Forum assessment. Azerbaijan is positioned 71st. [11] Azerbaijan possesses abundant natural resources, demographic advantages, and recreational potential for tourist growth, although it fails to fully exploit these possibilities.

Let us examine the following indicators:

Table 1. Monthly tourist expenditures in Azerbaijan and Georgia (in dollars)

Countries	2015	2016	2017	2018	2019	2020	2021	2022
Azerbaijan	7.45	257.5	2.7	223	136	32	95	66
Georgia	126	136	178,4	245,2	264	-	-	333

Sources: collected by the author using the following sources.

1. https://www.geostat.ge/en/modules/categories/102/inbound-tourism
2. https://stat.gov.az/source/tourism/

Greater monthly visitor expenditures in Georgia point to industry profitability and potential service diversification. Notably, there is a higher prevalence of entertainment tourism in Georgia when contrasted with Azerbaijan. As an example, gambling is lawful in Georgia's jurisdiction.

Let us examine the effect of tourist spending on the income of the Azerbaijani population. The effect of tourist expenditure on population income and, consequently, on socio-economic processes can be quantified using a multiplier. Increased tourist expenditures correlate with heightened revenue for the local people, which are subsequently allocated towards consuming. The population's income level can be ascertained using the formula:

L=S/ (1-MPC), where L means income level, where S means tourist spending, and MPC – marginal propensity to consume.

The subsequent indicators are used to compute the multiplier:

- the quantity and expenditures of international tourists (or revenue generated from foreign tourism);
- the income and expenditures of the populace.

Let us analyze the dynamics of income and expenditures within the population to ascertain the marginal propensity to consume.

Table 2.Dynamics of income and expenditure of the population for 2005-2021

Years	Incomes	Expenditures	marginal propensity to consume
2005	8063,6	6508,7	0,8072
2006	10198,5	8208,1	0,8048
2007	14558,2	11249,7	0,7727
2008	20735,4	15891,9	0,7664
2009	22601,1	17417,6	0,7707

2010	25607	19251,5	0,7518
2011	30524,6	22184	0,7268
2012	34769,5	24564	0,7065
2013	37562	28021,2	0,7460
2014	39472,2	30799,6	0,7803
2015	41744,8	34963,4	0,8376
2016	45395,1	39775	0,8762
2017	49187,9	44498,4	0,9047
2018	53103,7	47557,2	0,8956
2019	56769	51927,4	0,9147
2020	55754,1	49826,4	0,8937
2021	57206,8	55379,1	0,9681
		Average MPC	0,819032

Source: compiled by the author based on https://www.stat.gov.az/source/environment/

Table 3.1.3 indicates that the average marginal propensity to consume in the Republic of Azerbaijan is 0.8190. Incorporating this indication into the equation

TM (tourist multiplier) =1/ (1-MPC) yields a tourist multiplier of 5.5.

Next, we will calculate one tourist's income by considering tourism income dynamics and the quantity of tourists arriving in the Republic of Azerbaijan.

Table 3. Dynamics of the number of foreign tourists and receipts from inbound tourism for 2006-2021

Source: compiled by the author based on https://www.stat.gov.az/source/environment/

Years	tourism revenues (million manat)	Number of tourists (thousands)	expenses of one tourist (manat)	per tourist incomes
2006	101736,9	1262,0	80,6	445,4
2007	149331	1332,7	112,1	619,1
2008	142220	1898,9	74,9	413,8
2009	152197,6	1830,4	83,2	459,4
2010	282244	1962,9	143,8	794,4
2011	490315,08	2239,1	219,0	1209,8
2012	1004118,2	2484,0	404,2	2233,3
2013	1898003,6	2508,9	756,5	4179,6
2014	123142,5	2297,8	53,6	296,1
2015	105604,2	2006,2	52,6	290,8
2016	4087788,5	2248,8	1817,8	10043,0
2017	52798,6	2696,7	19,6	108,2
2018	4478077,1	2848,6	1572,0	8685,2
2019	3045573,8	3170,4	960,6	5307,4
2020	517114,5	795,7	649,9	3590,4
2021	531668,2	791,8	671,5	3710,0
growth (%)	522,6	59,4	599,0	

The 2006-2021 table shows that tourism income climbed 5 times, foreign travelers fell 40.6%, and their spending increased 6 times.

We compare one tourist's average expenditure by year to the MPC for the corresponding years to compute the multiplier effect. In 2006, this will be 80.6 / (1 - 0.819) = 445.4 manat, and in 2021, one tourist will spend 671.5 manat and contribute 3710 manat.

Thus, one tourist's higher expenses boost

population income. Inbound tourism's impact on hotels and hotel-type firms' income was - 7.7 and transit 4.8, determined using the same method. Let us examine the motivations of international tourists visiting Azerbaijan and Georgia.

Table 4.Goals of international tourists visiting Azerbaijan and Georgia.

	2018		2019		2020		2021		2022		2023	
	Azerbaijan	Georgia	Azerbaijan	Georgia	Azerbaijan	Georgia	Azerbaijan	Georgia	Azerbaijan	Georgia	Azerbaijan	Georgia
Average monthly number of arrivals (thousands of people)	237,4	600,3	264,2	643,8	66,3	-	66	-	133,5	392,0	171,6	514,3
Including by purpose of visit:												
Entertainmental tourism	33	256,3	97,0	280,0	13,7	-	11,0	-	33,2	210,2	78,2	269,1
Business tourism	66,0	52,0	70,9	69,3	14,8	-	16,4	-	33,4	53,3	13,05	65,8
Medical tourism	5,2	16,4	5,3	11,3	0,9	-	0,7	-	1,7	1,8	1,7	2,4
Religious tourism	1,2	-	1,4	-	0,25	-	0,08	-	0,9	-	0,2	-
Visiting friends and relatives	54,3	122,0	59,9	122,4	11,1	-	8,4	-	15,4	78,5	20,0	104,8
Shopping	-	41,5	-	43,6	-	-	-	-	-	16,6	-	27,6
Transit	-	99,1	-	103,6	-	-	-	-	-	53,3	-	65,8
Other tourist purposes	1,2	-	4,05	-	2,5	-	1,9	-	4,9	5,7	3,7	9,8
Other purposes	48,3	13	25,6	13,5	23,0	-	27,5	-	45,4	-	56,9	-

Sources: 1.https://www.geostat.ge/en/modules/categories/102/inbound-tourism
2. https://stat.gov.az/source/tourism/

In both nations, business and leisure tourism are distinguished by the intent of the visit. Azerbaijan is notable for its focus on religious tourism. In contrast to Azerbaijan, Georgia offers shopping tourism and transit tourist. Considering the aforementioned, we can draw the following conclusions:
A research of the tourism multiplier indicated that an increase in visitor expenditure positively impacts the socio-economic growth of the state. The multiplier effect of inbound tourism on hotel and hotel-type firm income is highest at 7.7, followed by population income at 5.5 and transportation at 4.8.

A comparative analysis of two indicators for Azerbaijan and Georgia indicates that Azerbaijan requires a distinct strategy to distinguish itself from Georgia and attract a substantial influx of tourists. The implementation of a contemporary tourism concept—neuro-tourism—will facilitate the development of a strategy aimed at enhancing tourist expenditure and differentiating Azerbaijan from Georgia.

Researchers utilize advancements in neuroscience in tourism to assess theories and develop more accurate hypotheses and assumptions. [8]

The application of neuroscience techniques in tourism entails the examination of subconscious, involuntary emotional responses of individuals. These investigations cannot be executed with conventional quantitative and qualitative research methodologies. Neuro-scientific techniques,

including heart rate measurement, electro-dermal activity monitoring, facial expression analysis, ocular observation, and electroencephalography, facilitate the examination of tourists' emotions. The examination of emotions enables us to identify those that compel tourists to revisit a destination and relive these feelings repeatedly. The renowned academician and neurophysiologist Bekhtereva asserted that individuals must intentionally seek pleasant perceptions, experiences, and sensations, and compel themselves to act in order to surmount negative emotions and create space for happy feelings. Bekhtereva posited that every individual possesses latent creative potential, although the overwhelming influx of knowledge inhibits its manifestation. [5], [6].

By targeting travelers seeking both physical and mental enhancement and establishing suitable conditions at a tourist location, a specialized strategy for tourism growth in Azerbaijan can be formulated.

The evolution of mountain tourism as a niche strategy, along with its emotional aspect, can be articulated through the words of renowned neurosurgeon Henry Marsh: “Neurosurgeons examine brain scans with both reverence and trepidation - akin to climbers gazing at the summit of a mountain they aspire to conquer.”[10]

Conclusions

In Azerbaijan, which has rich natural resources and a diverse landscape, there are all the conditions for the development of mountain tourism, which at the moment is not the main goal among the goals of visiting tourists. One of such places is the village of Gyryz (in Azerbaijani: Qırız) located in the territory of Guba. Gyryz is the most inaccessible village of the Shahdag region. In addition, this unique village is the home of the Gyryz people, who are descendants of one of the tribes that make up the population of Caucasian Albania. Caucasian Albania - the territory of ancient Azerbaijan, mentioned by both Herodotus and our time’s explorer Thor Heyerdahl, who repeatedly visited Azerbaijan, may be of interest to representatives of historical and cultural tourism.

It is particularly crucial to draw tourists to the territories of Azerbaijan that have been liberated from occupation. These regions' continued development will be aided by this direction. Lovers of both summer and winter mountain tourism find these Azerbaijani locations appealing due to their resemblance in relief and scenery to European mountain resorts. The development of health tourism may be based on the existence of healing springs. Bringing in foreign visitors and educating them about the historical facts behind the war in Karabakh is crucial. It is also feasible for the so-called "black" tourist industry to grow in this area, which involves traveling to locations connected to military operations and sad personal experiences.

Therefore, it is possible to guarantee a flood of tourists, accomplish the state's socioeconomic objectives, and establish a foundation for leadership in the Transcaucasia region by utilizing neuroscience methodologies in tourism and developing a niche strategy integrating mountain, historical, and cultural tourism.

It should be mentioned that concentrating on visitors from particular nations is possible when utilizing a specialized strategy. I should also mention visitors from China and Northern Europe separately. "Largest" is the important word to describe China (market, supplier, etc.). According to this perspective, the primary objective of nations that prioritize tourism is luring visitors from China. Azerbaijan's internal policy presents a genuine chance to draw in tourists from China. As far as is known, Azerbaijan joined the "One Road, One Belt" project in 2015, which is also referred to as the contemporary Silk Road. It should be mentioned that the creation of the Zangazur and Trans-Caspian corridors, which are a component of this program, is currently very important to Azerbaijan's economic growth.

The execution of this project will promote the expansion of the non-oil industry and the growth of the transportation network connecting Europe, Azerbaijan, and Central Asia. China and Europe are specifically connected by the Trans-Caspian Corridor, which passes through Kazakhstan, the Caspian Sea, Azerbaijan, Georgia, and Turkey. The corridor will impact the growth of international trade, logistics, and tourism as well as raise the nation's profile in the area. The number of tourists from the nations bordering China will undoubtedly be impacted by the construction of strong infrastructure and better transportation links. Based on a survey conducted among Chinese tourists who visited Ossetia, Kabardino-Balkaria, Chechnya and a number of other Caucasian countries, in order to attract tourists from China, it is possible to:

- train guides who speak Chinese;
- offer dishes from Chinese cuisine;
- inform guides about the superstitions of the Chinese;
- broadcast documentaries about Azerbaijan on Chinese television. [17]

Tourists from Northern Europe can be attracted based on the research of the famous scientist Thor Heyerdahl, who visited Azerbaijan many times.[18]

Using the research results as a marketing tool – storytelling – it is possible to focus on tourists primarily from Northern Europe.

Create a focus group of tourists, for example, for

German tourists – a tour “In the footsteps of German settlements in the Azerbaijan Republic”, for Polish tourists – “Creations of Polish architects in Baku”, for Hindus – “Pilgrimage sites for fire worshipers”.

Regarding raising visitor expenditure, the following ideas are suggested:

- diversifying inbound tourism is vital for Azerbaijan, encompassing sea, health, winter sports such as skiing and mountaineering, historical and cultural, regional, and ethno-tourism.

- targeted marketing initiatives are required to draw travelers from the appropriate nations in order to increase inbound tourism. For instance, promote Azerbaijan's beach resorts in nations without a sea; strongly promote traveler leisure options throughout the nation's regions:

- to compile a list of attractions broken down by Azerbaijani regions;

- to promote travel and leisure options via trade missions, embassies, and the Azerbaijani community overseas

- to construct cooperative trips in Georgia and Azerbaijan.

- to actively develop lodging for middle-class travelers.

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Development opportunities of mountain tourism in Azerbaijan

Asef Garibov[1], *Mansur Madatov*[2]
[1] **Baku Business University, Hasan bey Zerdaby Street, 88a, Baku, AZ1122, *Azerbaijan,***
asafqaribzade@gmail.com, 0009-0008-4183-1771
[2] **Western Caspian University, Istiqlaliyyat Street, 31, Baku, AZ0001, Azerbaijan,**
mansur.medetov@wcu.edu.az, *0000-0002-1067-7141*

Abstract

The article analyzes the development of mountain tourism in Azerbaijan and the prospects of more effective use of transit opportunities and export potential, including territories freed from occupation. In particular, in the field of mountain tourism, as well as in other areas based on absolute superiority, fundamental studies were conducted in the direction of the current problems of state regulation, important problems in the development of regional economic relations in transport and logistics and their nature were explained. It was noted that, along with many other factors, transit, transport-logistics issues are also important in the development of mountain tourism and the growth of economic power of each country. The location of Azerbaijan at the meeting point of Europe and Asia gives our country great advantages in the transportation of cargo and goods.

As experts have emphasized, Azerbaijan has the necessary conditions for the development of mountain tourism in the Shahdag range, Nakhchivan, Shusha, Lachin and Kalbajar, Gazakh, Shamkir, Goygol suburbs, Dashkasan, Goranboy mountain areas. In order to use these natural opportunities, the creation of appropriate infrastructure and different types of tourism in those areas is the main condition. Of course, all this is relevant in terms of promoting Azerbaijan in the world, development of our country, people's health and opening of new jobs.

In the article, the methods of international specialization and the efficiency issues of the tourism sector were systematically studied and their strategic importance in the processes of economic development, cooperation, and international trade was justified.

Keywords: economic potential, logistics, transport, mountain tourism, trade policy

Introduction

In our modern times, the people of Azerbaijan, with the visionary policy and strategic leadership of the Supreme Commander, the President of the country, Mr. Ilham Aliyev, the glorious Azerbaijan Army, which we longed for in a period of nearly thirty years, freed the territories in Karabakh occupied by our hated neighbor from the enemy, gave us the joyful days of victory, and the history is living its most memorable and glorious days. In such a period, it is necessary to assess the economic potential, geographical location, and transit opportunities of these areas and to determine the direction of entrepreneurship development as well as specialization in separate economic fields, provided that it is effectively used.

Mountain tourism is one of the developed directions and subfields of tourism in Azerbaijan in recent years. When we say mountain tourism, we mean first of all the "Shahdag" winter-summer tourism complex, which operates all year round in the northern region of our country. It should be noted that "Shahdag" winter-summer tourism complex differs from other complexes of this type in the world due to its uniqueness and universality. Located 1400 meters above sea level, the historical monuments and unique architecture of Shusha, the pearl of Azerbaijani culture, allow the creation of new tourism routes, the formation and development of mountain tourism in particular. Shusha is suitable for mild climatic conditions, and mineral waters have healing properties. These are very useful directions for the development of tourism.

Other Kalbajar and Lachin regions of the Karabakh region, which our army liberated from the Armenian occupation, should be specially mentioned due to their tourism potential. Kalbajar region is mainly located in a mountainous area, the highest peaks are Jamishdag (3,724 m) and Delidag (3,616 m). Forest-steppe plants, broad-leaved forests from

the flora world, alpine and subalpine meadows from the high and partially medium highlands, and animal species from the fauna world such as eagle, mountain goat, roe deer, brown bear, stone squirrel, wild boar, sable, and toglugötüren are spread here. At the same time, Kalbajar was one of the places inhabited by primitive people. This is evidenced by numerous rock paintings, caves, and various hunting and household tools found during excavations. Their history dates back to IV-III millennia BC. Kalbajar is the cradle of ancient Turkish culture. Examples of the Kura-Araz culture of the ancient Bronze Age were also discovered in the region. In addition to these, Kalbajar is rich in thermal water sources [6, p.23].

Of course, tourism potential should be reconsidered and which monuments should be protected by the state, as well as their restoration. Construction of mountain tourism routes, construction and marking of tourist trails should be carried out. Preparation of tourist maps and other works should be done. There are important issues that fall on various institutions and institutional bodies. In general, Karabakh will be a new tourist destination for us and not only in the two regions, but also in the territory of Karabakh. These destinations must be secured and safe for tourists to travel to and from.

Discussion

Karabakh territory, which includes all the regions of Azerbaijan with ancient history, has its historical cultural and religious monuments, ancient castles and bridges, flora and fauna, forests, springs, cuisine, etc. has tourism potential with its sights. Recently, thanks to the attention and care of the President of Azerbaijan, mountain tourism, which has entered a new stage of development, is experiencing its interesting and reliable period. This direction is considered necessary and successful in terms of the promotion of Azerbaijan in the world, the development of our country, the health of people and the opening of new jobs.

The preparatory works for the construction of the complex, which is located in the territory of the Shahdag National Park, 32 kilometers from the center of Gusar region, began in 2006. The world's leading companies won the tender held that year. The foundation of this complex was laid in September 2009 with the participation of President Ilham Aliyev. As a result of the work done since then, the road leading to the "Shahdag" winter-summer tourist complex has been widened, bridges have been built, and protection measures have been implemented to prevent landslides. The territory of the tourist complex, located at an altitude of 1300-2300 meters above sea level, is 2058 hectares.

Since the Shahdag complex began to operate, tourism companies have organized thousands of tours to this place. According to experts, mountaineering has gained popularity all over the world, including in Azerbaijan. There are already more than 50 clubs operating in this sport in different regions of our country. The number of our athletes is about 5 thousand. Among them there are dozens of professional guides based on international experience in mountain sports. Therefore, the number of companies and tourists interested in mountain tourism is increasing every year.

Mountain tourism summer and winter routes are active in the Greater Caucasus, mainly in the Shahdag range. During the season, there are many cyclists and skateboarders from Georgia and Russia. Performances of mountain bikers competing on specially designated bicycle paths and skateboarders competing to overcome the height barrier provide exciting moments for the audience. On these routes, branching places and areas for setting up camps have been determined, and at the same time, various security-related works have been carried out.

In Nakhchivan, which is the southern gate of Azerbaijan, there are many noteworthy points in the field of winter and mountain tourism. Paragliders made interesting flights in the Agbulag Recreation Center, located in the heart of the mountains, in the Shahbuz region. Later, flights were organized from the top of Alincagala. Parachute travel, which gives viewers exciting moments, is a first in the autonomous republic and indicates the comprehensive development of tourism.

According to experts, an important revival of winter and mountain tourism has been observed in Nakhchivan in recent years. Therefore, those who are involved in weather and extreme sports are interested in these opportunities available in Nakhchivan. For the past few years, foreign mountaineers have been making interesting trips to the majestic mountains of the autonomous republic, sharing those moments with great enthusiasm on social networks.

According to the decrees and orders of the President of Azerbaijan, the development of mountain tourism in the liberated territories is one of the priority issues. At present, large-scale construction works are being carried out in this direction in Shusha, Lachin and Kalbajar. There are rich resources in the areas of culture, nature, health, mountain-ski tourism in Karabakh and Eastern Zangezur [1, p.3].

It is known that the historical and cultural importance of these territories for the people of Azerbaijan is much higher than any economic value. It can be noted that the territories freed from occupation have rich economic potential, and the

new economic value that will be created based on the integration of these territories into the country's economy as a whole will exceed all the financial costs incurred by the state of Azerbaijan for the restoration of the territories many times over. It can be stated with confidence that the favorable business environment, the formation of micro, small and medium entrepreneurship, which will be created in the territories liberated from occupation, will give a substantial boost to the dynamic development of the non-oil sector, and as a result, the volume and variety of import-substituting products will increase due to local production, as well as export-oriented products. production, quantity and quality indicators will increase according to international standards.

"Azerbaijan 2030: National Priorities for socio-economic development" was approved by Decree of the President of the Republic of Azerbaijan dated February 2, 2021 and reflected in the "Socio-economic Development Strategy of the Republic of Azerbaijan in 2022-2026" based on these priorities. In order to ensure the implementation of the National Priority "Major Return to territories freed from occupation", President Ilham Aliyev's Decree dated 16.11.2022 approved the "I State Program on the Major Return to territories liberated from occupation of the Republic of Azerbaijan". The priorities set within the framework of the State Program are adapted to the Sustainable Development Goals and their respective targets based on principles such as "universality", "integrated approach" and "leaving no one behind".

By Order No. 2303 of the President of the Republic of Azerbaijan dated November 24, 2020, the Coordinating Headquarters was established for the purpose of solving socio-economic, humanitarian, organizational and other urgent issues in the liberated territories of the Republic of Azerbaijan, as well as coordinating activities in this field, under which the secretariat and An Interdepartmental Center was formed to perform the communication function, as well as provide analytical and organizational support. In order to organize the work in this field, working groups consisting of authorized representatives of various state institutions and for the prompt resolution of issues related to the restoration and reconstruction of territories freed from occupation have started to operate under the Coordination Headquarters.

According to the Decree of the President of the Republic of Azerbaijan dated April 19, 2021, the Commission on the efficient use of water resources is authorized to use the water resources of the liberated territories for the purpose of efficient use of water resources, construction, reconstruction, restoration of water facilities, supply of drinking water and irrigation water, as well as rainwater was assigned to ensure the coordination of measures related to management.

Within the framework of the State Program, the identified priority tasks related to the Great Return include the following:

- provision of safe living in settlements;
- provision of reliable protection of the state border by territory;
- provision of decent living conditions for the population by building settlements that meet high standards, including new modern cities and villages based on the concepts of "Smart City" and "Smart Village";
- implementation of the necessary projects related to the provision of water, electricity, gas, heating in the territories freed from occupation;
- creation of a "green energy" zone with the application of "green" technologies based on the use of renewable energy sources;
- construction of modern communication, including telecommunications and postal networks, with the application of high technologies;
- creation of education, healthcare and social services according to advanced standards, ensuring their accessibility;
- increasing the employment opportunities in the territories freed from occupation;
- development of human capital;
- wide application of social support mechanisms; economic specialization of regions freed from occupation;
- strengthening the industrial potential of the liberated territories;
- stimulating the development of agriculture in various sectors;
- implementation of simplified economic models with incentives and concessions for attracting highly qualified specialists, domestic and foreign investors, expansion of access to banking, insurance and financial services;
- attraction of private investments and promotion of public-private sector partnership;
- supporting the development of various types of tourism;
- ensuring the safety of the environment during the implementation of restoration works [4, p.9].

Apparently, one of the first and foremost priorities is to clear the areas of mines and other

military munitions. Pursuant to the approved annual action plan for demining activities, clearing areas affected by the conflict from mines and unexploded ordnance, as well as their transportation and neutralization, marking areas affected by mines and unexploded ordnance, drawing up relevant maps and entering them into the electronic database, as well as placing maps in city and district centers are necessary steps to be taken in the mentioned direction.

One of the main priorities is the organization of protection and defense of the state border of the Republic of Azerbaijan, as well as police control, as well as the prevention of possible threats in the territories freed from occupation. Reconstruction, restoration and urban planning works in these areas will be carried out with the application of advanced urbanization models, while it is important to take into account the changing global urban planning trends in the world.

Creation of a network of social services in the field of human capital development in the liberated territories and strengthening of its material and technical base, provision of quality health and education services to the population who will live in the region, restoration and reconstruction of cultural and sports facilities, implementation of active self-employment programs and rehabilitation in order to increase employment opportunities establishment of enterprises is within the registered plan.

One of the main tasks is the organization of restoration and protection of historical monuments located in these areas, inventorying of monuments, passporting, and determination of protection zones. Also, the continuation of the employment-oriented economic policy in connection with the organization of new job opportunities for the population that will settle here, and the expansion of the scope of active employment measures are among the main tasks.

Universal access to state service centers "ASAN", "DOST", etc. will be provided. Within the framework of the creation of the "Green Energy" zone, "green technologies" and "green energy" potential will be used in each link of the electric power value chain, taking into account technical and commercial feasibility. Creation of the necessary infrastructure for the use of environmentally friendly means of transport will be ensured. The preliminary results cover each year during the period of implementation of the State Program, the intermediate results cover the years 2023, 2024 and 2025 on an annual basis, and the final results cover the year 2026.

One of the main advantages of Azerbaijan is its favorable transit opportunities and geographical location, which is the main bridge between East and West, and Azerbaijan is becoming one of the main transport and communication centers of the world, and this process is still ongoing. Having a leading role in the Great Silk Road, Baku-Ceyhan oil and Baku-Erzurum gas pipelines, TANAP and TAP projects on the Baku-Tbilisi-Kars railway line increases Azerbaijan's economic and political position and importance not only in the region, but also in the world.

In the modern era, it is expected that the global and regional competitiveness of countries that prioritize quality specialization in international markets, develop production technology, innovation potential and thus promote areas that create high added value will increase. The development of the industry based on innovations will be possible as a result of strengthening the potential of science and technology and expanding educational opportunities. It is necessary for developing countries to achieve economic growth based on productivity and to form new areas of production with comparative advantage. Thus, the main task at the current stage is to achieve faster development of the non-oil sector, increase the efficiency and competitiveness of the economy, and ensure its innovation-based progress [2, p.35]. In addition, the next period will be characterized by a change in the balance between the main centers of the world economy and its structural reconstruction, strengthening the role of regional economic associations.

For Azerbaijan, this opens up new opportunities in terms of foreign economic integration, and it also makes it necessary to prioritize the global context in the directions of socio-economic development, not to be limited to the local regional circle, and to take advantage of participation in economic relations and markets of various economic spaces. It should be noted that, along with many other factors, transport and logistics issues are also important in increasing the economic power and political weight of each country. The location of Azerbaijan in the place where Europe and Asia meet. Just having such convenient transit facilities gives our country great advantages in the transportation of goods and goods.

The correct and pragmatic policy conducted in recent years has led to the strengthening of Azerbaijan's positions in this field. Azerbaijan is becoming an international logistics center and work is being expanded in this direction. Today, a number of transnational projects important for the region and the world are being implemented in Azerbaijan. One of them is "North-South transport corridor". It is an important route connecting Asia to Europe via Azerbaijan and Russia. The implementation of the project will both expand and accelerate the trade relations of many Asian countries with Europe. In particular, it should be noted that the initiator of this

project, as well as the main executor of the decisions made, is the Azerbaijan Republic.

In a video conference held with the head of the European Development Bank (EDB), President Ilham Aliyev drew their attention to the importance of the "North-South transport corridor" and said: "Azerbaijan has already invested a large amount in this corridor. It has great potential. We are already accepting cargo from the north - from Russia, passing through the territory of Azerbaijan in the western and southern direction. However, the condition of railway lines from the border with Iran to the border with Russia is not good. Therefore, we have already invested some funds to increase the speed of trains, and we plan to do it" [7, p. 2]. Later, the President emphasized that today there is already a traffic jam on our borders with Russia. Because the increasing export from Azerbaijan and Iran makes it impossible to bring goods by trucks. Therefore, we need a modern railway system as part of the "North-South Corridor". Other challenges may arise in the future communication process. Those issues will be resolved in a timely and flexible manner. The existing cooperation between the Asian Development Bank (ADB) and our country so far suggests that the ADB will be closely involved in the financing of the "North-South transport corridor". Because that bank has great interest and trust in our country. Let's note once again that such huge infrastructure projects implemented in our country are highly appreciated by international organizations. Those institutions have repeatedly stated that the work done in Azerbaijan is of great importance not only for our country, but also for the world.

Thanks to the projects implemented in Azerbaijan, our country has become an important junction on the world's largest transport corridors - East-West, North-South routes. Now all the roads in this direction converge in Azerbaijan. Timely steps taken by our state towards the creation of the "East-West transport corridor" are bearing fruit. So, last year, cargo transportation over that transport corridor increased. Because the commissioning of the Baku-Tbilisi-Kars railway creates wide opportunities for this corridor. The most important thing is that cargo is transported not only from the east, but also through Russia to Turkey and Europe through that corridor passing through Azerbaijan. In a word, along with the "East-West transport corridor", the efficiency of the "North-South transport corridor" is also increasing year by year. Turkmenistan, Afghanistan and other countries using the transport corridor passing through Azerbaijan will increase both the volume of transportation and the economic and political importance of this route, and as a result, it will open new opportunities for the economic development of our country and increase its reputation in the international world.

Today, Turkmenistan and Azerbaijan, together with their partners in Afghanistan, Georgia, Turkey, are working on the efficient operation of the Lapis-Lazuli transport corridor, which should become the most important continental routes between Asia and Europe. Turkmenistan and Azerbaijan are also one of the initiators of the creation of the Caspian Sea - Black Sea transport system. As it is known, on January 21 of this year Azerbaijan and Turkmenistan signed a Memorandum of Understanding on joint exploration, development and exploitation of hydrocarbon resources of the "Dostlug" field in the Caspian Sea. The joint development of this field will allow the creation of new economic relations between the two countries. This corridor will bring economic benefits not only to the two countries, but to the entire region.

Speaking about the importance of the projects implemented in the transport and logistics sector, President Ilham Aliyev said: "The projects of creating modern international seaports, which work closely together with the transport infrastructure of Turkmenistan and Azerbaijan and ensure the transit of goods passing through our territories, as well as increase the possibilities of commodity circulation between Azerbaijan and Turkmenistan they have somehow synchronized. I am sure that cooperation between our countries in the field of transport and logistics will reach a higher level, taking into account the new conditions that have arisen in our region and the possibilities of opening new transport routes. I think this will create additional opportunities for all our partners and neighbors" [7, p.9]. The head of state also noted that cooperation with Turkmenistan in the field of transport and logistics opens up new opportunities not only for the two countries, but also for the region, and even for all countries located far from the region - in the Eurasian space.

At the same time, Mr. President Ilham Aliyev highly appreciated the investment policy implemented by Turkmenistan in the field of transport and logistics. Thus, Lapis-Lazuli became a reality thanks to the investment made by Turkmenistan. As a result of this, the implementation of the railway project, which allows the delivery of goods from Afghanistan to Turkmenistan, Azerbaijan and other countries, was realized with the investment provided by Turkmenistan. Besides, a number of tripartite transit projects are being implemented in the region at the initiative of our country. Currently, there is a tripartite cooperation format between Azerbaijan, Turkmenistan and Turkey, as well as between Azerbaijan, Turkmenistan and Afghanistan. This type of

cooperation determines the annual increase in the volume of cargo turnover between the countries of the region [8, p.56].

The development of tourism in our territories freed from occupation and the creation of a new transport-logistics cooperation format will further increase the importance of our republic in this field. Occupying Armenia's participation in this project, which involves cooperation in the six-party format, will be most beneficial to it. Cooperation with Azerbaijan is the best opportunity for this country, which is living in blockade conditions as a result of its occupation policy for years, to get out of the "cage". There are no problems with the transition to a new format of cooperation with the rest of the countries of the region - Turkey, Iran, Russia, Georgia. Currently, a working group is operating at the level of the deputy prime ministers of three countries - Russia, Azerbaijan and Armenia - regarding the opening of the corridor to Nakhchivan. An 11-point cooperation agreement was recently signed between Turkey and Azerbaijan on energy, mining industry and other fields [9.p.67]. With the newly signed documents, your relations with the brotherly country will take a perfect shape in all areas, and within the framework of strategic cooperation, there will be serious cooperation in the field of transport and logistics. progress will be made.

Results and Discussions

After regaining its independence, Azerbaijan has shown its potential in many areas on the path of new socio-economic development. Admirable work has also been done in the direction of the development of international tourism relations in our country. Azerbaijan tourism develops year by year and confirms the main part of the income from the state budget in the direction of increasing the social welfare of the population. Qualified specialists who can work in the tourism sector of our country are growing, as well as specialists in this field have gained experience outside of Azerbaijan and have succeeded in applying tourism innovations and services in Azerbaijan. The construction of hotels with different appearance and service provides a basis for ensuring a high level of the flow coming here. The increase in the number of vacationers in recreation areas such as Khachmaz, Gabala, Ismayilli, Shamakhi, Guba, and Masalli is an indicator of the attention paid to Azerbaijan tourism. The number of tourists coming to our country has increased compared to previous years. Azerbaijan is considered a country with wide prospects in terms of tourism. Despite the relatively small size of its territory, the fact that it has sufficient natural resources, material and technical base and historically formed cultural heritage for the development of tourism are factors that can turn Azerbaijan into a potential tourism country. Of course, in addition to these, state support in this area is considered one of the main issues. In the last 10 years, a number of reforms have been carried out in the field of tourism under the leadership of President Ilham Aliyev.

The number of tourists coming to Azerbaijan continues to increase over the last 10 years. Large-scale measures are being taken in the direction of the restoration of the liberated territories, ensuring their future development, creating the necessary infrastructure and returning the population to their native lands. It carries out many restoration works by effectively using the rich economic potential, natural resources and wide tourism opportunities of the mentioned areas.

The tourism potential of Karabakh is very rich, there are all opportunities for the development of many types of tourism - ecotourism, mountain tourism, winter tourism, hunting tourism, health tourism. The tourism development strategy and concept of territories freed from occupation was developed by the State Tourism Agency. In addition to traditional tourism, the development of winter and health tourism is possible in Kalbajar. In Shusha, which is considered the cradle of culture, mainly festivals are planned, in Aghdam "dark" - i.e. naked display of the results of the occupation, and business tourism are planned. Khojavand region also has a special tourism potential. It is more appropriate to put Tug and Hadrut on the wine route. The famous Azıx cave and Taglar cave are also located in this area. There are also certain plans for Suguvushan.

This ancient region of Azerbaijan has its own flora and fauna, cuisine, historical cultural and religious monuments, ancient castles, bridges, forests, springs, etc. will attract tourists with its sights. In Karabakh, which is rich in natural resources, various types of extreme tourism, agro-tourism and green tourism can be organized. All this creates wide prospects for the development of tourism. Kalbajar region is an ideal place for winter tourism. It is important to establish tourism infrastructure in the form of mutual connections in our territories freed from occupation. Shusha will be one of the symbolic cities of Azerbaijan tourism. The historical monuments and unique architecture of Shusha, the pearl of Azerbaijani culture, will allow the creation of new tourism routes.

The warm mineral spring in Lachin, which has a wide range of recreational opportunities, and the Lachin reserve, which has a rich flora and fauna and has an area of more than 21,000 hectares, will expand the tourism opportunities of these areas. Even before

the occupation, 2 large sanatoriums of All-Union importance were operating in the Istisu settlement of Kalbajar. Every year, 50,000 people were treated and rested there. It was possible to treat both external and internal human diseases with the "Istisu" mineral waters here. Even a resort and a mineral water plant were built there. According to experts, the terrain of Kalbajar allows the construction of the world's most amazing ropeways and the establishment of the most interesting tourist services. Here it is possible to create the largest tourism center of the Caucasus in the future.

At the same time, the "Caucasus Albania tourism route" will play an important role in exposing Armenian lies that falsify the history of Karabakh. The route is prepared based on the advice and recommendations of scientists who study Caucasian Albania. The route of Albanian culture covers 3 main corridors of Azerbaijan — Baku-Sheki-Zagatala, Ganja-Kazakh and Karabakh. There are more traces of Albanian culture in Karabakh and Eastern Zangezur. There is a rich heritage of Caucasian Albania here. It has temples, churches, traditions, etc. includes. It should be noted that the tourism route that will be created in the footsteps of the ancient Albanian culture will be of special importance in the direction of promoting the rich and historical tourism potential of our country, as well as Karabakh.

In order to promote the existing tourism potential of Karabakh, intensive work is ongoing in the direction of creating the necessary tourism infrastructure. It should be emphasized that tourism has an economic side as well as a promotional side. Tourists will relax in our Karabakh, enjoy the beauty of nature, our cultural-historical monuments, and the favorable environment created, and get acquainted with some buildings that will be displayed as exhibits to show the results of the occupation in our territories such as Aghdam, Jabrayil, Fuzuli, and see what condition Karabakh was put in by the Armenian barbarians. and they will witness how it was improved by the real owners.

In the pre-war period, there was a sufficient tourist infrastructure and sanatoriums were operating in the liberated territories. There were "Gotur Su" and "Istisu" sanatoriums in Zangilan, as well as sanatoriums and hotels in Shusha. At a time when we had not yet entered the international market, we received many tourists during the year. Of course, the construction and commissioning of Fuzuli and Zangilan international airports in Azerbaijan today indicates that there will be greater interest in the development of tourism flows to those areas. This requires a large amount of funds. Both pandemic and as a country that has come out of war, it has had a serious impact on the economy in terms of funds. But despite this, the domestic and foreign policy of the country's leadership shows that roads are being built in all regions of the country, new light infrastructure is being created, and large projects are being implemented. Our regions freed from occupation will be demined, and we will achieve great achievements after the contaminated areas are completely cleaned. People will return to their ancestral homes, and in parallel, we will build large tourist complexes in those regions and attract foreign and local tourists to the region. Of course, this will have an important impact on the social development of the internally displaced persons returning to the region.

Due to the relief, our territories freed from occupation have an important geographical position for the creation of mountain ski resort complexes. Kalbajar, Lachin, as well as regions such as Zangilan, are more suitable for the restoration of mountain ski resorts. At the same time, if we take into account that the composition of mineral springs is much richer than "Donalt" water of Slovenia compared to "Tursh Su" in Zangiland, Istisu in Kalbajar, Lachin, "Isa Spring" in Shusha, "Gizlar spring" in Hadrut. Taking this into account, in the future, it would be more appropriate for entrepreneurs to build sanatorium-type medical establishments in those regions.

In general, there are extensive plans for the development of tourism in Karabakh and Eastern Zangezur. Taking into account domestic and foreign tourists, Karabakh is expected to receive 1 million people in the next 4 years.

Conclusion

As we mentioned above, based on the analysis of macroeconomic indicators of the economy of Azerbaijan, we can come to the conclusion that the tourism sector of our country is gradually becoming an international transport and logistics center as it develops. Over time, the number of countries included in this chain will increase, and the people of those countries will benefit from joining a place of prosperity where peace and harmony are experienced.

Thus, for Azerbaijan, the mentioned directions open up new opportunities both in terms of tourism development and foreign economic integration, and it is necessary to prioritize the global context in the directions of socio-economic development, not to be limited to the local regional circle, and to take advantage of participation in economic relations and markets of various economic spaces. In other words, the transition from the traditional economy to the "knowledge economy" and "digital economy" should be accelerated, and the adequate development of human capital, which is decisive for this, should be prioritized. This leads to a radical change of the

education system, along with making relevant demands in the formation of the economic model, increasing the importance of the application of components such as additional education, life-long education, as well as increasing the role of ICT and virtual education, computer-network knowledge. At the same time, the importance of intellectual property, whose main mission is to stimulate creativity, innovation and support market regulation, will also increase. All over the world, the processes of economic freedom, removal of obstacles to the movement of capital and goods, free trade, protection of economic and property rights of citizens are going very fast.

In our opinion, in order to effectively integrate Azerbaijan's national economy into the world economy and further strengthen its position in the world economy, it has become necessary to expand activities in various directions, especially in various directions of tourism. Thus, the evaluation of economic resources, continuation of liberalization in the economy, improvement of the business environment, protection of private property, rule of law, reduction of the tax burden and refusal to regulate the economy by administrative methods, establishment of a democratic civil society in accordance with international standards are the priority facing the government of Azerbaijan and society as a whole.

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Assessment of the World Trade Organization's concerns in addressing global environmental challenges

Elshan Orucov[1,2]
[1]*Western Caspian University,31 Istiglaliyyet str., Baku, Azerbaijan, AZ1001*
[2]*The Economic Scientific Research Institute (The ESRI) under Ministry of Economy*
elshen.orucov@wcu.edu.az,

Abstract: Global environmental challenges such as climate change, biodiversity loss, and pollution are intensifying, creating significant threats to ecological and human systems. The WTO established to oversee and facilitate international trade, must navigate these challenges while balancing trade liberalization with environmental sustainability. The urgency stems from the need to reassess and potentially reform WTO policies to ensure they support global environmental goals rather than undermine them.

Purpose: This article aims to evaluate the WTO's current role and effectiveness in addressing global environmental challenges. It seeks to analyze how existing trade policies impact climate change, biodiversity, and pollution, and to identify potential gaps and opportunities for better integration of environmental objectives into WTO frameworks.

Methods: The study examines WTO agreements and their interactions with environmental issues, including carbon pricing, fossil fuel subsidies, trade in endangered species, and pollution controls.

Results: The findings indicate that while the WTO has made some progress in addressing environmental concerns, significant gaps remain. Issues such as the compatibility of border carbon adjustments with WTO rules, the inadequacy of subsidy regulations for climate goals, and conflicts between trade and conservation measures were highlighted. Recommendations include clearer guidelines, enhanced multilateral cooperation, and improved transparency.

Conclusions: The WTO's current policies need significant reform to better align with global environmental sustainability goals. Enhancing integration of environmental objectives, fostering international cooperation, and increasing stakeholder engagement are crucial steps. By addressing these issues, the WTO can improve its role in promoting sustainable trade practices and supporting global environmental protection.

Key words: World Trade Organization, environmental challenges, trade policy, global cooperation, sustainability.

Introduction

The World Trade Organization (WTO), established in 1995, serves as the principal global institution governing international trade. Its primary mandate is to facilitate smooth and predictable trade flows, reduce trade barriers, and ensure that trade policies are transparent and equitable. However, the pressing global environmental challenges of the 21st century – such as climate change, biodiversity loss, and pollution – pose significant questions about the WTO's role and effectiveness in promoting sustainability. The urgency of addressing these environmental issues has never been more critical. Climate change, driven by greenhouse gas emissions, threatens to disrupt global weather patterns, sea levels, and ecosystems. Biodiversity loss, accelerated by habitat destruction, overexploitation, and pollution, jeopardizes ecosystem stability and human livelihoods. Pollution, encompassing air, water, and soil contamination, exacerbates health problems and environmental degradation. As these challenges become increasingly severe, the interplay between international trade and environmental sustainability is coming under greater scrutiny.

The WTO's approach to these issues is rooted in its core principles: non-discrimination, national treatment, and the prohibition of unjustified trade restrictions. While these principles aim to create a level playing field in global trade, they sometimes conflict with environmental goals. For instance, carbon pricing mechanisms such as carbon taxes or cap-and-trade systems, designed to mitigate climate change, may be perceived as trade barriers under WTO rules. Similarly, efforts to curb biodiversity loss and manage pollution can be complicated by the need to avoid discriminatory trade practices. The intersection of trade and environmental policies presents a complex landscape. On one hand, trade liberalization can facilitate the diffusion of green technologies and sustainable practices across borders. On the other hand, it can exacerbate environmental issues if not carefully regulated. The WTO's existing agreements and frameworks, such as the Agreement on Technical Barriers to Trade (TBT) and the Agreement on Subsidies and

Countervailing Measures (ASCM), offer some tools for addressing environmental concerns. However, these frameworks have been criticized for their lack of specificity and effectiveness in promoting true environmental sustainability.

Given the increasing importance of integrating environmental considerations into trade policy, this article seeks to assess the WTO's current role and effectiveness in addressing global environmental challenges. It evaluates how WTO frameworks address climate change, biodiversity loss, and pollution, and discusses the implications for global trade and environmental protection. The analysis highlights the need for enhanced integration of environmental objectives within trade policies and offers recommendations for a more cohesive approach to addressing the dual goals of trade liberalization and environmental sustainability.

Climate Change and Trade Policy

Climate change represents one of the most significant global environmental challenges, influencing trade patterns and necessitating substantial policy responses. The WTO's involvement in climate-related issues primarily revolves around the compatibility of trade rules with climate action. Key issues include:

Carbon pricing and Trade barriers. Carbon pricing mechanisms, such as carbon taxes and cap-and-trade systems, aim to internalize the environmental costs of carbon emissions. However, these mechanisms can potentially conflict with WTO rules. The principle of non-discrimination in trade agreements prohibits countries from imposing trade barriers based solely on the origin of goods. Border carbon adjustments (BCAs), which impose tariffs on imports from countries with less stringent climate policies, are one proposed solution to this issue. While BCAs could address carbon leakage—where companies shift production to countries with looser emissions regulations—they also raise questions about their compatibility with WTO rules. Research indicates that while BCAs could be permissible under WTO rules if they are implemented as part of a consistent and transparent climate policy, they remain contentious and are subject to potential trade disputes (Zeng, 2022).

Subsidies and Trade implications. Subsidies for fossil fuels can undermine climate goals by encouraging continued reliance on carbon-intensive energy sources. The WTO's Agreement on Subsidies and Countervailing Measures (ASCM) addresses the issue of subsidies but does not specifically target environmental concerns. The challenge is to reform subsidy policies to align with climate objectives while ensuring compliance with trade rules. Recent discussions within the WTO have explored how to integrate environmental criteria into subsidy regulations, yet substantial progress is needed to reconcile trade and climate objectives (Goh, 2023).

Biodiversity and Trade

Biodiversity loss is a critical issue that intersects with trade through the global movement of goods and natural resources. The WTO's role in this area involves ensuring that trade practices support rather than harm biodiversity conservation. Key aspects include:

Trade in Endangered Species. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) regulates the international trade of endangered species to prevent their extinction. CITES operates alongside WTO rules, and conflicts can arise when trade restrictions aimed at protecting species are perceived as trade barriers. The WTO's Committee on Trade and Environment has examined the interaction between CITES and trade rules, emphasizing the need for coherence between conservation efforts and trade practices (Scholz, 2023).

Sustainable Resource Management. Trade in natural resources, such as timber and fish, has significant implications for biodiversity. The WTO's agreements do not explicitly address the sustainability of resource use, leading to potential overexploitation and habitat destruction. Initiatives such as the Forest Law Enforcement, Governance and Trade (FLEGT) process seek to promote sustainable timber trade, but broader integration of sustainability criteria into trade agreements remains a challenge. The WTO's engagement in discussions on sustainable resource management highlights the need for more comprehensive policies that align trade with biodiversity conservation (Klein, 2023).

Pollution and Trade

Pollution, encompassing air, water, and soil contamination, is another area where trade and environmental concerns intersect. The WTO's approach to pollution involves ensuring that environmental regulations do not become disguised trade barriers. Key considerations include:

Environmental Standards and Trade. Environmental standards, such as regulations on emissions and waste management, can affect trade by influencing production costs and market access. The WTO's Agreement on Technical Barriers to Trade (TBT) addresses the relationship between trade and environmental standards, ensuring that regulations are not more trade-restrictive than necessary. However, the challenge lies in balancing the need for effective environmental protection with the potential for trade restrictions. The WTO has been criticized for its approach to environmental

standards, with calls for more robust mechanisms to align trade rules with pollution control objectives (Baker, 2023).

Trade and Pollution Havens. Trade can contribute to pollution through the relocation of production to countries with less stringent environmental regulations—a phenomenon known as pollution havens. The WTO's rules do not specifically address pollution havens, raising concerns about the potential for trade to exacerbate environmental degradation. Addressing this issue requires a nuanced approach that considers both trade and environmental impacts, with potential solutions including enhanced international cooperation and integration of environmental criteria into trade agreements (Li, 2024).

Assessment and Recommendations

The WTO's approach to global environmental challenges reflects an ongoing struggle to balance trade liberalization with the need for environmental protection. While the organization has made efforts to address climate change, biodiversity loss, and pollution, several areas require further attention:

Enhanced Integration of Environmental objectives. The WTO should work towards a more integrated approach that aligns trade policies with environmental goals. This includes developing guidelines for incorporating environmental considerations into trade agreements and ensuring that trade practices support sustainability. Clear mechanisms for addressing conflicts between trade and environmental objectives are essential for promoting coherence between these areas.

Strengthened multilateral cooperation. Addressing global environmental challenges requires multilateral cooperation beyond the WTO. The organization should collaborate with other international bodies, such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD), to develop integrated policies that address both trade and environmental issues. Enhanced cooperation can help ensure that trade practices support global environmental goals.

Greater transparency and stakeholder engagement. Increasing transparency and engaging a broader range of stakeholders, including environmental organizations and the public, can improve the WTO's approach to environmental challenges. This includes incorporating diverse perspectives into policy discussions and ensuring that environmental impacts are adequately assessed and addressed. Greater stakeholder involvement can enhance the effectiveness and legitimacy of trade and environmental policies.

Discussions

The interplay between trade and environmental policies has become increasingly complex as global environmental challenges mount. The WTO’s efforts to balance trade facilitation with environmental sustainability have yielded mixed results, reflecting both progress and ongoing challenges. This section discusses the implications of current policies, explores the broader context of trade-environment interactions, and considers the potential pathways for integrating environmental concerns more effectively into the WTO’s framework.

Implications of current WTO policies

The WTO’s current approach to integrating environmental considerations into trade policies demonstrates both strengths and limitations. The organization’s frameworks, such as the Agreement on Technical Barriers to Trade (TBT) and the Agreement on Subsidies and Countervailing Measures (ASCM), provide a basis for addressing environmental issues but often fall short in terms of specificity and enforcement.

The implementation of carbon pricing mechanisms and border carbon adjustments (BCAs) illustrates a proactive approach to addressing climate change. However, the WTO’s rules on non-discrimination and national treatment create significant hurdles. While BCAs have the potential to reduce carbon leakage and incentivize global climate action, their design and application must be carefully managed to avoid trade disputes and ensure compliance with WTO regulations (Zeng, 2022).

The lack of specific provisions in the ASCM for addressing the environmental impact of fossil fuel subsidies highlights a significant gap in the WTO’s approach. While the organization has made some progress in addressing subsidies, there remains a need for more targeted measures that align with climate objectives. The challenge lies in reforming subsidy policies without disrupting global trade or facing resistance from vested interests (Goh, 2023).

The interaction between CITES and WTO rules underscores the need for coherence between conservation and trade policies. While CITES provides essential protection for endangered species, ensuring that trade measures do not conflict with conservation goals requires careful coordination. The potential for trade disputes and the need for clear guidelines highlight the complexity of aligning these frameworks (Scholz, 2023).

Broader context of trade-environment interactions

The broader context of trade-environment

interactions reveals both opportunities and challenges. Trade can have significant environmental impacts, both positive and negative. On one hand, trade can promote the diffusion of environmentally friendly technologies and practices. On the other hand, it can lead to increased environmental degradation if not properly managed.

Trade can facilitate access to green technologies and environmentally friendly products, supporting global efforts to address environmental challenges. For instance, the spread of renewable energy technologies and energy-efficient products through international trade can contribute to climate mitigation. Additionally, trade can foster international cooperation on environmental standards and regulations, promoting best practices across borders (Baker, 2023).

Conversely, trade can exacerbate environmental problems if not aligned with sustainability goals. Pollution havens, where production shifts to countries with weaker environmental regulations, represent a significant concern. Additionally, the overexploitation of natural resources driven by trade demands can lead to biodiversity loss and environmental degradation. Addressing these negative impacts requires a comprehensive approach that integrates environmental considerations into trade policies and practices (Li, 2024).

Pathways for effective integration of environmental concerns

To address the challenges and opportunities associated with trade and environmental sustainability, several pathways can be pursued. These include enhancing the WTO's policies, fostering multilateral cooperation, and increasing transparency and stakeholder engagement. The WTO's policies must evolve to better integrate environmental concerns. This includes revising existing agreements to incorporate environmental criteria, developing new guidelines for sustainable trade practices, and ensuring that trade measures support rather than undermine environmental goals. For instance, the TBT Agreement could be updated to better accommodate environmental standards without creating unnecessary trade barriers (Baker, 2023).

Multilateral cooperation is essential for addressing global environmental challenges effectively. The WTO should collaborate with other international organizations, such as the UNFCCC and CBD, to develop coherent policies that address both trade and environmental issues. Joint initiatives and agreements can help align trade practices with global sustainability goals and promote shared approaches to environmental protection (Goh, 2023).

Transparency and stakeholder engagement are critical for improving the WTO's approach to environmental issues. Implementing mechanisms for regular consultations with environmental organizations, industry representatives, and the public can enhance the effectiveness of trade and environmental policies. A public reporting system on the environmental impact of trade policies can also promote accountability and ensure that diverse perspectives are considered in decision-making (Li, 2024).

The future of WTO and environmental integration

Looking ahead, the WTO's role in addressing global environmental challenges will likely continue to evolve. As environmental concerns become more central to international policy discussions, the WTO will need to adapt its frameworks and practices to better integrate sustainability goals. This may involve adopting new approaches to trade regulation, developing innovative solutions to emerging environmental issues, and fostering greater collaboration with other international bodies.

The WTO must remain responsive to emerging environmental issues, such as plastic pollution and ecosystem degradation. Developing adaptable and forward-looking policies will be crucial for addressing these challenges effectively. The organization's ability to anticipate and respond to new environmental threats will shape its role in promoting global sustainability (Scholz, 2023).

Integrating environmental concerns into trade policies aligns with the broader goal of sustainable development. The WTO has an opportunity to contribute to the United Nations' Sustainable Development Goals (SDGs) by promoting trade practices that support environmental protection and sustainable resource management. By aligning its policies with these global objectives, the WTO can enhance its role in fostering a sustainable and equitable global economy (Zeng, 2022).

One of the new approaches of the WTO is green trade policies. The WTO can develop and promote trade policies that favor environmentally friendly products and technologies. This could include reducing tariffs on renewable energy technologies and green goods while promoting circular economy practices (Scholz, 2023). Another approach is carbon border adjustments. Introducing mechanisms like carbon border taxes to address the carbon footprint of imported goods could help mitigate competitive disadvantages for countries with stringent environmental regulations (Zeng, 2022). WTO can align with some of Sustainable Development Goals (SDGs):

SDG 12 (Responsible Consumption and

Production): The WTO can promote trade policies that encourage efficient resource use and waste reduction, supporting the goal of responsible consumption and production.

SDG 13 (Climate Action): Trade policies that support the transition to low-carbon technologies and promote climate resilience align with SDG 13.

SDG 14 (Life Below Water) and SDG 15 (Life on Land): Addressing trade practices that impact marine and terrestrial ecosystems is crucial for achieving SDGs related to ocean conservation and land degradation (Zeng, 2022).

Future directions of the WTO can be followings:

Adaptability: The WTO needs to be flexible in its approach, continuously updating policies to respond to new environmental threats and scientific advancements (Scholz, 2023).

Stakeholder engagement: Engaging with diverse stakeholders, including environmental NGOs, industry leaders, and policy experts, will ensure that trade policies are balanced and effective (Kolk, 2021).

Monitoring and evaluation: Establishing robust mechanisms to monitor and evaluate the environmental impacts of trade policies will be essential for assessing their effectiveness and making necessary adjustments (Rüth, 2021).

Conclusion

The WTO plays a critical role in shaping global trade, and its approach to environmental challenges will significantly impact the world's ability to address pressing environmental issues. While the organization has made progress in addressing climate change, biodiversity loss, and pollution, there is a need for a more cohesive and integrated approach that balances trade liberalization with environmental sustainability. By strengthening the integration of environmental objectives, promoting multilateral cooperation, and enhancing transparency, the WTO can better align its policies with the urgent need for environmental protection and sustainability.

The current WTO frameworks, including the Agreement on Technical Barriers to Trade (TBT) and the Agreement on Subsidies and Countervailing Measures (ASCM), provide a basis for addressing environmental issues but are insufficient in fully supporting sustainability objectives. Issues such as the compatibility of border carbon adjustments (BCAs) with WTO rules, the need for more stringent regulations on fossil fuel subsidies, and the management of trade conflicts related to endangered species underscore the limitations of existing policies. Moreover, the challenge of pollution havens, where trade can exacerbate environmental degradation, further highlights the need for a revised approach. The WTO's principles of non-discrimination and national treatment, while crucial for fair trade, sometimes hinder the implementation of effective environmental policies. This tension calls for a reassessment of how trade rules can better accommodate environmental goals without compromising the core objectives of the organization.

Proposals:

1. Enhance policy integration: The WTO should develop and implement clear guidelines for integrating environmental objectives into trade agreements. This involves revising existing agreements, such as the TBT and ASCM, to include specific provisions that support environmental sustainability. For instance, establishing clearer rules for the implementation of BCAs could help balance climate goals with trade regulations, ensuring that such measures are transparent, non-discriminatory, and aligned with WTO principles.
2. Promote multilateral cooperation: Greater collaboration with international environmental organizations, such as the UNFCCC and CBD, is essential. The WTO should facilitate joint initiatives that align trade practices with global sustainability objectives. This includes supporting international efforts to harmonize carbon pricing mechanisms and environmental standards to reduce conflicts and promote coherent policies across borders.
3. Increase transparency and stakeholder engagement: The WTO should enhance transparency in its decision-making processes related to environmental issues. Implementing regular consultations with environmental organizations, industry representatives, and the public will provide diverse perspectives and improve policy effectiveness. Additionally, a public reporting system on the environmental impact of trade policies can promote accountability and ensure that environmental considerations are adequately addressed.
4. Address emerging environmental challenges: The WTO must stay responsive to emerging environmental threats, such as plastic pollution and ecosystem degradation. Developing adaptable policies and innovative solutions will be crucial for addressing these challenges while promoting sustainable trade practices.

By adopting these proposals, the WTO can better align its policies with the urgent need for global environmental sustainability, ensuring that trade and environmental goals are mutually supportive rather than conflicting.

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Characteristics of forest and soil ecosystems of mountain territories. Mountain and forest ecosystems.

Fidan Hidayat Gurbanova, Sevinj Alim Khasayeva, Saida Abgül Siracova

Azerbaijan State University of Economics (UNEC)
qurbanova_fidan@mail.ru

Abstract

The article examines the functions of forests and soils in mountainous landscapes and the damage caused to them. The characteristics of the northern, southern, eastern and western slopes of forest ecosystems are evaluated separately. The properties of trees growing in mountainous areas are investigated according to the composition of the soil.

The main component of the mountainous landscape is forests, and mountain forests are of great importance in the protection of our nature. Forests protect and protect the land cover from being washed away, and residential and agricultural areas from floods. As we know, most of the atmospheric sediments fall on the slopes of mountain forests. Therefore, the hydrological condition of mountain regions depends on the water regulation function of these forests. Some of these atmospheric deposits remain in the canopy of trees and evaporate over time, while the other part is filtered through the branches, leaves and trunks of trees and falls onto the surface of the forest floor. The forest floor has the importance of water storage and soil protection for the forest. Also, the forest floor holds moisture for the forest. In the mountain forests, it settles under the forest floor and brown soils are formed.

Keywords: mountain, forest, soil, ecosystem, biological diversity.

Introduction

For many centuries, economic activity in the mountains (mainly in the foothills and mid-mountain zones) has been of a natural nature. Each period of historical development of mountain regions affects natural ecosystems was characterized by different combinations of species and different degrees of tension.Throughout history until the end of the 19th century. The forms of using the natural resources of the mountains have practically remained unchanged. A gradual increase in the burden and scale of development of new territories was observed. A sharp jump in the anthropogenic transformation of the natural environment of the mountains, which led to the destabilization of ecosystems, began in the middle of the 20th century. At the same time, the traditional forms of management (logging, grazing, hunting, farming) themselves the intensity of the impact on biological resources has increased and new forms have been added. For example, the transfer of land to collective farms, the abundance of livestock and the allocation of part of the land for industrial facilities, roads, land reclamation and plowing have limited the development of traditional pasture farming. taking into account the natural characteristics of natural fodder soils (moistening of slopes, dense grass, seasons of use, etc.). New forms of influence were added during this period: mining and oil development, construction, industrial logging, recreation, among others. ski and summer tourism. If in the past ecosystems were able to adapt to new conditions with a weak intensity and scale of impact, in our time, the speed of transformation and frequent changes in the forms of impact in one area (mowing - mowing - grazing - plowing - development) significantly exceed the adaptation capabilities of the ecosystem biota. In many cases, they preclude the ability of ecosystems to heal themselves.

The main centers of ancient development and, accordingly, the formation of land degradation and anthropogenic modifications of ecosystems were the low and middle mountains of the North Caucasus, the Urals, South Siberia and Transbaikalia. In these areas, natural ecosystems have been destroyed in large areas and their replacement has been replaced by mainly low-value and unproductive, as well as anthropogenic ecological complexes. Other

mountainous regions of Russia have a shorter history of development and relatively small, localized anthropogenic disturbances.

If the current state of biodiversity in mountainous areas is highly critical, it is due to the high and most importantly uncontrolled anthropogenic loads in the ecosystems on the one hand, and the insufficient development of the mountain protected natural areas system on the other hand. This situation is aggravated by the weakening of centralized management, lack of control by the district administration, and poor financing of environmental protection measures at the local level.

The state of biodiversity is adversely affected by poaching (illegal logging, irregular grazing, collection of wild ungulates, collection of plant resources, etc.) associated with poverty and widespread unemployment among the local population. In the zones of intensive economic development, there is extremely strong pressure on vertebrate species that are the object of hunting and fishing. Excessive and uncontrolled hunting and shooting are quickly pushing these species to the brink of extinction. These phenomena are especially dangerous in mountain ecosystems, which, as mentioned earlier, are very sensitive to anthropogenic influences. In this "risk group", initial measures are very important in the areas of planned intensive economic development.

An unprecedented increase in the number of weapons among individuals, local wars and armed inter-ethnic conflicts also pose a significant threat to the vegetation and wildlife of mountainous regions. For example, recent local military conflicts have in one way or another affected 30-35% of the territory of the Greater Caucasus, causing the death of a number of ungulate populations, the destruction of unique, previously protected ecosystems, and deforestation. large areas, incl. on mountain slopes. The use of modern weapons in local conflicts leads to irreversible changes in the development of erosion, after which it becomes difficult to restore ecosystems. The consequences of war and conflict are compounded by challenges to the conservation and sustainable use of biodiversity resources. After the end of military operations, a significant area of the region falls into the zone of poorly predictable catastrophic changes in natural systems.

The specificity of anthropogenic transformation of mountain ecosystems is that, due to the "transit position", the biota of mountain ecosystems is more sensitive to anthropogenic factors compared to lowland ecosystems. Loads of similar intensity in the mountains cause deeper consequences and conversion rates than in the plains due to the "cascade effect". But, on the other hand, the mosaic nature of the ecosystem cover and the proximity of similar ecosystems allow quick recovery of ecosystems and biotas due to active inter-ecosystem exchange when anthropogenic pressure is removed or weakened. Thus, it is easier to ensure the protection of biological diversity in the mountainous country, in contrast to the plain, where horizontal inter-ecosystem connections between isolated fragments of ecosystems are weaker and the depth of change in disturbed areas is greater.

The development of upland areas by the currently applied methods often leads to the loss of insulation barriers, partial destruction of biota, and the associated reduction of biodiversity. One of the results of these processes is the introduction of lowland species into the mountains and ultimately the replacement of specific mountain forms by widespread forms. First of all, it reduces the evolutionary potential of mountain ecosystems, they lose their role as donors of biodiversity, which negatively affects the biodiversity of lowland biota. In addition, species that replace specialized montane forms cannot fully fulfill the function of montane biota as a landscape stabilizer in montane ecosystems. After reaching a certain abundance, alien species are capable of deforming the habitat of mountain biota to such an extent that it can begin to collapse and eventually lead to the loss of stability of mountain landscapes as a whole. This, in turn, is fraught with critical situations and cataclysms that bring disasters and losses to the population of mountainous regions and adjacent areas, not to mention the loss of an important source of resources.

Consequences of negative anthropogenic impacts on mountain ecosystems:

• Land degradation, mountain slope erosion, catastrophic landslides, floods.

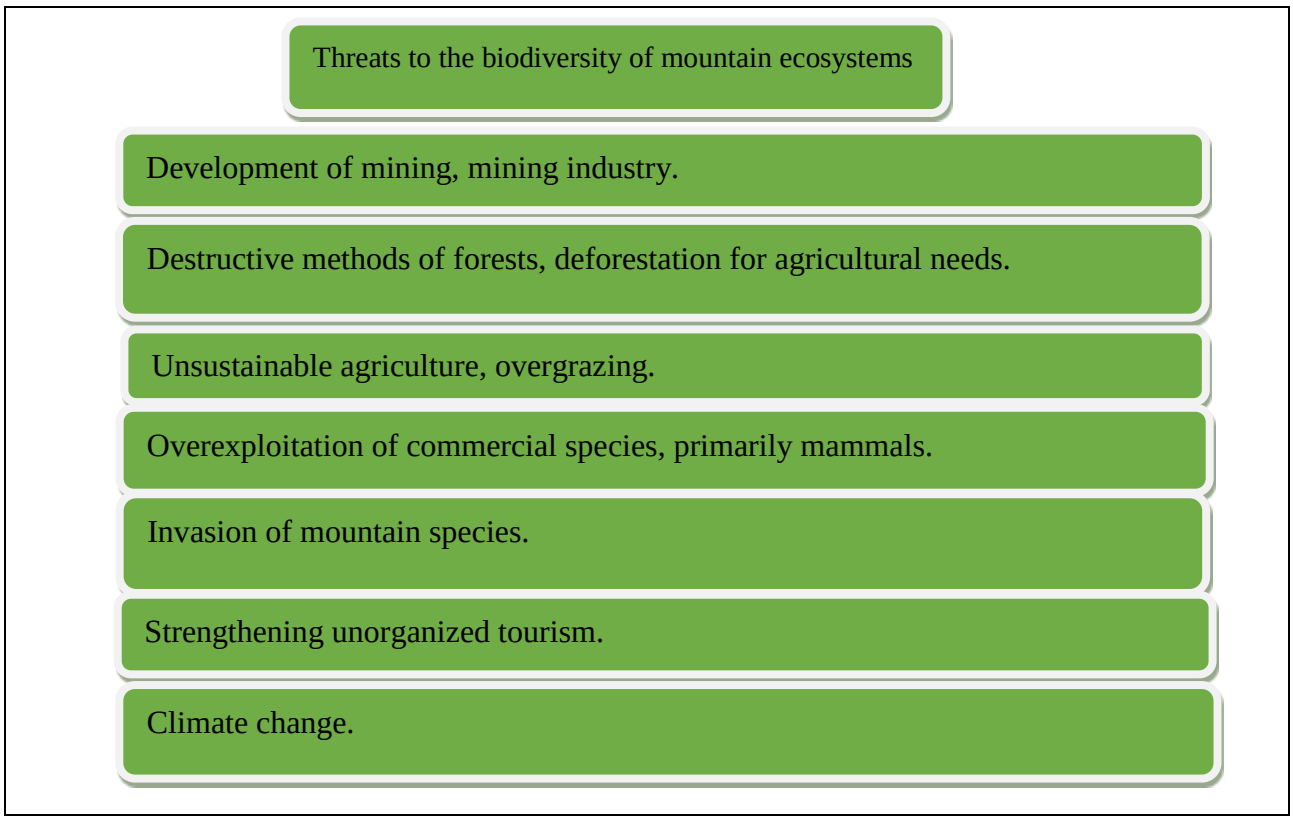
•. Replacement of natural ecosystems with anthropogenic modifications, including. row crops, pastures, meadows, secondary forest stands, etc.

•. Fragmentation of ecosystem cover, formation of natural nature "islands" in man-made and agricultural landscapes;

• Reduction of biodiversity at species and ecosystem levels, displacement of specialized mountain forms by invasive species, synanthropization of biota, destruction of biocenoses, loss of their self-regulation and self-healing ability.

• Unification of vegetation and biota; smoothing of the boundaries of vertical zones, anthropogenic convergent events in the composition and structure of biota communities;

• Destruction and loss of historically formed ecologically balanced natural-cultural complexes and traditional management forms of environmental protection in the mountains.



Forests and woodlands play a large, complex and interactive role in the environment. For millions of years, soil has provided the basis for the growth of trees and entire forests. Soils are an important component of forests and forest ecosystems because they are involved in regulating important ecosystem processes such as nutrient uptake, decomposition, and water balance. Soils provide trees with rooting opportunities, moisture and nutrients. In turn, trees, as well as other plants and vegetation, are an important factor in the formation of new soil through the decay and decomposition of leaves and other vegetation.

However, the relationship between soils and forests is broader and more complex. Lands and forests are inextricably linked and their influence on each other and on the environment is enormous. The interaction between forests and forest lands helps maintain the ecological conditions necessary for agricultural production. The positive effects of these interactions are multifaceted and ultimately contribute to a productive food system, strengthened rural livelihoods, and a healthy environment in the face of change.

Forests, forest lands and their interactions have important functions in contributing to food security and environmental health.

1. Climate change: the role of forests and forest lands.

Carbon emissions are one of the main drivers of climate change. One of the many roles played by our planet's forests is that they act as a storehouse of significant carbon stocks. Forests account for 650 billion tons of carbon, almost one-third of the carbon in terrestrial ecosystems. Forest soils contain about the same amount of carbon as the world's forest biomass (about 45% each). The remaining ten percent of carbon comes from dead wood and the forest floor. In general, forests store the same amount of carbon as the atmosphere.

2. Efficient use of land resources requires efficient use of forest resources, including their restoration.

To combat erosion and protect the soil, the planet needs sustainable use of its forest resources.

Tree roots stabilize ridges, hills and mountain slopes and provide the soil with the necessary mechanical structural support to prevent surface movement of soil masses: landslides rarely occur in densely forested areas.

Sustainable forest management practices, including measures to establish or maintain forest cover on erodible soils and streams, will help control or reduce the risks of soil erosion and minor landslides. Reforestation in drylands is vital to protect soil.

3. Ecosystem benefits of forests and soils: clean water and watershed management.

By reducing the risk of soil erosion and the risk of landslides and avalanches, the sustainable management of forest resources contributes greatly to the systems responsible for maintaining the

planet's clean water supply and balanced water cycle.

In addition, forests are a key component of watershed management—an integrated approach to natural resource use within a watershed's geographic region. Watershed management is a very environmentally friendly way to protect and restore areas prone to soil degradation and erosion in the highlands. One of the main parameters taken into account during the planning of water flow regulation measures from the water basin is the characteristics of the forest and soil. In addition, measures to restore and improve soil fertility - for example through reforestation - have many advantages and are therefore an integral element of any watershed management plan.

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4. Soil protection in semi-arid and arid regions begins with forests and trees.

Forests play an important role in protecting soil resources by preventing soil erosion, for example preventing or reducing salinity. The challenge for forests in semi-arid regions is to find the optimal combination of water productivity and soil conservation.

5. Forests can reduce the vulnerability of mountain soils to degradation.

Due to the steepness of the slopes and the thinness of the soil layer, mountain ecosystems are extremely vulnerable to erosion. Mountain soils are often degraded and do not provide enough nutrients for plants to grow well. The FAO estimates that about 45 percent of the world's mountainous regions are unsuitable or only marginally suitable for agriculture. Degradation of mountain soils and vegetation can be gradual or rapid, but recovery often takes many years and in some cases is irreversible.

Farmers living in mountainous areas have many problems: short growing seasons, steep slopes, shallow soils, landslides. In order to survive, they had to discover multiple ways to avoid or spread risk through complex and diverse farming systems between cropland, pasture and forest. Farmers know that they must use different types of soil wisely at different elevations and at different times of the year.

Conclusion

To protect our land, we must protect forests and trees. In the past, the importance of such consequences was often ignored, leading to the clearing of trees and bushes, and the subsequent loss of millions of hectares of fertile land. Moreover, deforestation, direct exposure of land to wind and rain, soil erosion and land degradation continue to undermine the resource base of agriculture. Therefore, it is necessary to protect forests and trees in order to protect our land. Both of these vital resources play a central role in food security and environmental health.

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Fiscal Resilience and State building: Analyzing the Impact of Taxation in Post-Conflict Azerbaijan

Gunel Amrahova

Department of Finance, Western Caspian University, Azerbaijan
E-mail: gunel_amrahova@wcu.edu.az
ORCID: https://orcid.org/0000-0002-7706-1536

Abstract. This research proposal aims to investigate the nuanced relationship between taxation dynamics and state building resilience in post-conflict Azerbaijan, focusing on the transformative period spanning from 1984 to 2024. The study employs a rigorous time series analysis methodology to dissect the impact of taxation policies on fiscal stability, economic recovery, and social cohesion in the aftermath of the Karabakh conflict. By scrutinizing tax payments, budget allocations, SME proliferation, population demographics, and GDP trajectories, the research endeavors to uncover empirical insights into the intricate interplay between fiscal policies and state building imperatives. Ultimately, this research aspires to furnish policymakers and stakeholders with evidence-based recommendations for fostering sustainable development and resilience in conflict-affected contexts.

Key words: taxation, state building, post-conflict, policy, budget-allocation, state program

Introduction

The Karabakh conflict has cast a long shadow over Azerbaijan's socio-economic landscape, necessitating a comprehensive examination of the role of taxation in facilitating post-conflict reconstruction and state building. Against the backdrop of historical tumult and national resilience, this research seeks to examine the potential of taxation policies to shape the path of Azerbaijan's recovery and development. Through a multidimensional analysis encompassing fiscal, economic, and social dimensions, the study endeavors to unravel the intricate mechanisms underpinning state building resilience in the wake of conflict.

Literature Review

Taxation is a central pillar of modern economies, serving as a mechanism for governments to finance public expenditure and achieve socio-economic objectives. Beyond revenue generation, taxation plays a crucial role in economic stability and resource mobilization. Also, taxation plays a pivotal role in state capacity building, serving as a mechanism through which governments assert authority, fund public services, and engage in social contracts with citizens.

This scientific analysis highlights the multifaceted role of taxation in fostering economic stability and resource mobilization. By synthesizing key theoretical frameworks and empirical evidence, it underscores the importance of taxation in shaping macroeconomic dynamics and government capacity.

The Keynesian Theory posits that taxation can be utilized as a tool for demand management and stabilization policies (Keynes, 1936). By adjusting tax rates, governments can influence aggregate demand and mitigate fluctuations in economic activity. Additionally, automatic stabilizers, such as progressive taxation and welfare programs, play a vital role in stabilizing aggregate demand by automatically adjusting in response to economic conditions. Moreover, fiscal policy multipliers highlight taxation's impact on aggregate demand and output through changes in disposable income, thereby affecting overall economic stability (Musgrave, 1959).

Haavelmo's Growth Model emphasizes taxation's role in financing public investment and

infrastructure development, essential for long-term economic growth (Haavelmo, 1960). Tax incidence analysis examines how taxes influence behavior, savings, and investment decisions, thereby shaping resource allocation and mobilization. Furthermore, tax elasticities provide insights into how changes in tax rates affect revenue generation and economic activity, crucial for optimizing tax policies to enhance resource mobilization (Diamond, 1971).

From the other hand, the role of taxation in state capacity building is elucidated from three main theoretical perspectives—State-Building Theory, the Weberian Perspective, and Fiscal Sociology.

According to State-Building Theory, taxation enhances state legitimacy and authority by establishing a fiscal contract between the state and its citizens (Auerbach, 2003). Taxation serves as a tangible manifestation of citizenship obligations and state responsibilities (Saez, 2001), thereby strengthening the social contract and fostering trust in government institutions (Tilly, AD 990–1992).

From the Weberian Perspective, taxation is crucial for funding the administrative apparatus and providing public services. Max Weber emphasized the rational-legal authority of the state, wherein taxation serves as a legitimate means of resource mobilization to support bureaucratic structures and deliver essential services to citizens (Weber, 1978).

Finally, Fiscal Sociology provides insights into the intricate dynamics of citizen-state relations mediated through taxation (Steinmo, 1993). Through the analysis of social contracts and power structures, Fiscal Sociology elucidates how taxation reflects and shapes societal values, distributional outcomes, and perceptions of fairness in the tax system (Oates, 1972).

By enhancing state legitimacy, funding administrative apparatus, and mediating citizen-state relations, taxation contributes to the consolidation of governance structures and the provision of public goods. Understanding the theoretical underpinnings of taxation's role in state capacity building is essential for crafting effective tax policies and promoting good governance.

Objectives

By addressing following questions, the research proposal aims to provide a comprehensive understanding of taxation dynamics and their implications for state building resilience in conflict-affected contexts, with specific relevance to post-conflict Azerbaijan.

1. Investigate the role of taxation policies in shaping political order during conflict, with a focus on how tax revenue is mobilized and allocated by state and non-state armed groups through utilization of time series analysis to examine the evolution of taxation dynamics during conflict periods, exploring the utilization of formal and informal taxation mechanisms by different actors.

2. Identify factors driving the adoption of formal and informal taxation by state and non-state armed groups, considering socio-economic, political, and strategic motivations through conduct comparative analysis of taxation practices across territories and populations, examining variations in tax imposition, collection methods, and utilization by different armed groups.

3. Assess the allocation of tax revenues by armed groups towards social services, security measures, and military expenditures, exploring the impact on conflict dynamics and local communities using budget allocations analysis and exploration of expenditure patterns of armed groups, examining the relationship between taxation revenue sources and spending priorities.

4. Explore the multifaceted roles of taxation in conflict settings, including its socio-economic impacts on local communities, its influence on political dynamics, and its implications for state legitimacy employing qualitative methods such as interviews and case studies to capture the diverse social, economic, and political dimensions of taxation in post-conflict Azerbaijan.

5. Examine variations in taxation practices across different contexts and actors, elucidating the factors driving differential taxation policies and enforcement mechanisms by running comparative analysis and case studies to identify contextual factors shaping the adoption and implementation of formal, informal, and extra-legal taxation measures.

6. Evaluate the policy implications of taxation dynamics on state formation processes and institutional capacity-building in post-conflict Azerbaijan, with a focus on revenue generation and public expenditure management resulting in policy recommendations based on empirical findings and comparative analysis, highlighting strategies to enhance state revenue mobilization, improve governance, and strengthen the social contract in the aftermath of armed conflicts.

Methodology

This research adopts a time series analysis methodology to scrutinize the temporal dynamics of taxation and state building resilience in post-conflict Azerbaijan. The study draws upon a comprehensive dataset encompassing tax payments, budget allocations, SME proliferation, population demographics, GDP trajectories, and the availability of state support programs. Statistical techniques such as

regression analysis, correlation analysis, and trend analysis will be employed to discern patterns, relationships, and causal linkages between the variables under investigation. Comparative analyses between periods of conflict and post-conflict recovery will be conducted to elucidate the differential impact of taxation policies on state building imperatives.

Expected outcomes of the research include, above all, enhanced understanding of the nexus between taxation dynamics and state building resilience in conflict-affected contexts through assessment of temporal evolution of taxation policies and their implications for fiscal stability in post-conflict Azerbaijan.

Another desired outcome of the current research is Identification of key determinants and mechanisms shaping the impact of taxation policies on fiscal stability and socio-economic recovery by analyzing the impact of tax payments on budget allocations, SME development, and GDP growth during the period under study.

Furthermore, desired results of the current research include insights into the efficacy of state support programs in fostering resilience and promoting inclusive development in post-conflict setting as part of investigations of the efficacy of state support programs in bolstering socio-economic resilience and mitigating the adverse effects of conflict. Lastly, policy-relevant recommendations play a crucial role for leveraging taxation as a tool for sustainable development, social cohesion, and national reconciliation in Azerbaijan and beyond in the aftermath of the Karabakh conflict.

Through empirical analysis and evidence-based insights, the study seeks to inform policy discourse and strategic interventions aimed at fostering sustainable development, economic prosperity, and social cohesion in post-conflict Azerbaijan.

To achieve the above-mentioned outcomes, relevant data collection would include collection of primary and secondary data on tax payments, budget allocation, SME development, population statistics, GDP growth, and state support programs from 1984 to 2024 from national statistical agencies, government reports, and academic studies.

In variable selection and operationalization, the preferred response variable is budget allocation, predicted by Tax Payments, Number of SMEs, Population Statistics, GDP. Simultaneously, Availability of State Support Programs (True/False value) should be selected as a control variable in order to assess tax-related effects in the economy with and without state support. Finally, National Spirit and Moral Factors, State Capacity will be selected as latent variables.

Quantitative Analysis includes time series analysis using statistical techniques such as regression analysis, correlation analysis, and trend analysis. Multiple linear regression will be adopted to examine the relationship between tax payments, budget allocation, and other variables over the study period. In order to assess the impact of taxation on state building efforts we will conduct a comparative analysis between periods of conflict and post-conflict recovery to.

By investigating the nexus between taxation and state building in post-conflict Azerbaijan, this research aims to contribute to the academic literature on conflict resolution, economic development, and public finance management.

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Problems of sustainable environmental and economic development

Gulnara Hajiyeva

candidate of economic sciences, associate professor
"Finance and accounting" department
of Western Caspian University,
Istiqlaliyyat Street, 31, Baku, AZ0001, Azerbaijan
+994 50 676 95 52, hajievagulnara@gmail.com
Aliya Gadzhigaibova

E-mail:aliyaalxasova@gmail.com
Azerbaijan State Economic University
Gulbaniz Aliyeva

Lankaran State University, General Hazi Aslanov alley 50.,
Lankaran , AZ4200, Azerbaijan
gulbeniz_aliyeva@mail.ru

Abstract

Goal: to study approaches to understanding the sustainable development of ecological and economic systems to substantiate the directions of interaction between societies and natural systems. modern ideas about the sustainable development of socio-economic various levels are based primarily on the concept of “sustainability”, used in connection with concerns about the limited possibilities of natural reproduction of natural complexes under the increasing influence on them from the technosphere. It has been established that at present there is no sufficiently consistent understanding between representatives of scientific schools and directions of understanding the sustainability of the development of ecological and economic systems. The lack of such understanding leads to directly opposite points of view on development prospects human community in conditions of increasing natural restrictions.

Keywords: sustainable development, environmental and economic development, environment protection, management

Introduction

The concepts of economic and environmental development management can be presented in spatial and functional aspects. In a spatial sense, they cover planetary, national, regional and local systems, the first of which plays a decisive role in shaping the conceptual provisions for the sustainable development of ecological and economic systems. The position of each researcher of this problem represents a certain point in two-dimensional space, reflecting his views on the interaction between man and nature as a result of technological progress, where growing threats are arranged on one side, and real and potential opportunities on the other.

So, from K. Jaspers: “The history of mankind for us, in essence, is nothing more than what exists, but is wrecked between two immeasurable states of sleep, the first of which was a natural existence, the second becomes a technical existence.” [8, c. 203].

The current state of society is becoming more and more “technological”, while remaining “natural” at the same time. This dichotomy has always existed; only the proportions between its elements change. The key subject of dispute between scientists is the vector of changes in the level of nature-intensive technologies. Modern technologies are considered nature-intensive. But the previous ones were like that even to a greater extent. In this regard, one can turn to relatively recent studies of martyrs who dealt with “purely economic” problems. For example, E. Böhm-Bawerk wrote that beech firewood has a higher value than pine firewood [6, p. 53]. At

present, it is impossible to even imagine recommendations to follow the traditional technology of heating premises with beech wood, as one of the reproducible sources of energy, instead of environmentally polluting petroleum products. This possibility simply does not exist. However, there are also less obvious phenomena in ecological and economic systems that do not allow us to draw clear conclusions regarding the opportunities and threats of interaction between the human community and natural systems.

Research methodology

As the basis of the research methodology, the concept of sustainable development of ecological and economic systems, we accept the Rio de Janeiro Declaration on Environment and Development [10]. Sustainable development is proclaimed in the document as a basic thesis in a number of principles declared in it. Thus, the first principle states: “Caring for people is central to efforts to achieve sustainable development. They have the right to a healthy and productive life in harmony with nature.” The third principle is: “The right to development must be respected in a manner that adequately meets the developmental and environmental needs of present and future generations.” The fourth principle: “To achieve sustainable development, environmental protection must be an integral part of the development process and cannot be considered in isolation from it” [10]. Let us note that in the practical recommendations for sustainable development, as part of the principles, not declarative, but practical properties, those that violate sustainability are adopted, if we understand the latter as preserving the basic parameters of the system during its changes. In particular, we are talking about the redistribution of material values and natural resources between rich and poor countries, social strata (in economic, social and natural senses). From this, the inevitable conclusion arises that poor societies must be recipients in technical, technological, economic, and social aspects. This thesis contradicts, in our opinion, the original position. In a system based on the redistribution of resources, sustainability is constantly undermined. The sources of such violations may be of a different nature; it is important not to maintain stability at any given moment in time, but to create conditions for the expanded reproduction of the human community in the social sense.

The discussion of the results

Problems of managing ecological and economic systems are widely considered by domestic scientists. In this case, we are usually talking about sustainable socio-ecological or ecological-economic development. Naturally, the concept of sustainability is interpreted in different ways by scientists. It should be noted that the term “sustainable development”, which has become firmly established in scientific use, does not have a precise definition. Usually it is understood as the ability to carry out the reproduction of three subsystems: man, nature, society or technical and technological, socio-economic, natural subsystems. Bibatyrova believes that it is necessary to ensure balance between systems, or at least stability based on the synchronous, balanced movement of all elements of sustainable development (economic,social, environmental), although this represents an extremely difficult task [7]. In this case, a deeper task arises - before achieving sustainability, it is necessary to determine what it is, what its essence is from the positions of interacting systems. In some cases, the authors offer fairly general characteristics of the analyzed category. Thus, A.A. Malyshev, Yu.A. Kazhaeva characterize the sustainability of the ecological-economic system as “comprehensive systemic development over a long period of time, based on the interaction of economic, environmental and social elements during the simultaneous use by various subjects of three forms of capital (manufactured, natural, human)” [16].

In fact, in this case, sustainability is proposed to be understood as the long-term development of socio-economic systems based on the capitalization of production factors, including their natural component. O.V. Kosolapov, V.E. Strovsky consider sustainable development based on improving the economic and social conditions of human life without destroying the biosphere while strengthening the idea of neospherogenesis [15]. M.V. Turanova writes that with many definitions of sustainable development at the theoretical level, in practice it means maintaining a balance between the environmental, economic and social spheres of human activity, the achievement of which is a complex problem in the formation of a sustainable development strategy [22]. As we see, to achieve sustainability it is necessary to maintain or achieve a balance between the individual components of the life of society. At the same time, it is unclear whether balance currently exists, whether it existed previously, or whether the proportions in it should change. Previously, the balance was constantly upset for the majority of the planet's population as a result of wars, epidemics, famine, etc. This means that development was unsustainable. If a balance exists now, is it worth maintaining it, ensuring a high

standard of living for the “golden billion” with a low level of economic status for the remaining six-plus billion, which also causes damage to the natural environment due to the use of outdated, “dirty” technologies. The proportions of resources used in any balance of life are constantly changing, for the better or for the worse - it depends on the point of view. Balance is only the moment between the unbalanced state of the economic, social, natural subsystems of the ecological-economic system of the planetary level.

V.B. Samsonov, I.I. Kolisnik write that the “socio-ecosystem economy” is an integral territorial organization of man, nature, and society. At the same time, its orientation towards rational environmental management based on risk management of a single reproduction process of natural, human and social capital [20]. Despite the unconditionally positive intuitive level of perception of the thesis as rational and nature-oriented, it does not answer the main question: what is the “integrity” of a system consisting of such heterogeneous elements. Only after solving this problem can questions of reproduction of this “integrity”, risk of reproduction, territorial organization, etc. be raised. More specific, in our opinion, is the point of view of T.L. Ivanova, who writes that it is necessary to raise the question of a “human-centric”, “human-saving” model of socio-economic systems, focused on “greening, informatization, futurization, innovative search, which ensure the survival of humanity in an aggressive environment” [14]. With a significant number of directions of interaction between society and nature, stated by the above-mentioned author, the environment itself is characterized as aggressive, which largely corresponds to the current survival practice of most societies. Measuring the degree of aggressiveness and its sources seems to be a simpler task in a methodological sense than the search for stability in the relationship between man and nature, which in fact is only a moment in the chain of its constant violations. This is largely due to the high level of competition for available natural resources. V.V. Gassi rightly notes that the transition to sustainable development does not ensure the economic prosperity of territorially localized systems, since there is fierce competition in the use of resources both at the local and international levels [9]. The author is talking about regions, but specific the level of territorial localization in this case is not of fundamental importance. It is important that any system on the planet has a limited amount of resources, and a significant part of them can actually or potentially be exploited by several systems entering into competitive relations. This applies not least to natural resources. They are necessary for the development of society in the same way as other resources (labor, technology, capital, etc.). A.G. Airapetova uses the concept of “capital” to characterize sustainability, which applies to physical (produced), human and natural capital. In this case, we can talk about two types of sustainability: weak (natural and produced capital does not decrease) and strong [2]. In the latter case, natural capital as a whole does not decrease, and part of the profit from the use of its non-renewable part is used to increase the value of the renewable part. The social component of sustainable development ensures the stability of social, including cultural systems, and reduces the destructive power of conflicts between people. From an environmental point of view, sustainable development must ensure integrity of biological and physical natural systems. The problem, in the opinion of this author, lies in the correct interpretation and valuation of each of them, taking into account interchangeability [2]. Raising the question of ways to evaluate each component of the total capital of a society, represented by the three indicated elements, certainly deserves attention. However, in relation to the main issue - the sustainability of ecological and economic systems, it is secondary. Before defining counting methods, we need to understand what we will be counting. N.G. Zagirov, judging by a number of theses, is more focused on the economic content of the concept of environmental and economic management than the above-mentioned authors. In relation to land resources, he considers the following provisions important:

– problems of nature conservation should be related to government regulation and land policy;

– preservation of natural potential as a resource and ecological one is based on increasing the efficiency of land use in cost, aesthetic, and cultural senses;

– the criteria for the effectiveness of the use and protection of natural territories are: the market value of the land; the total economic value of the territories; potential losses to communities as a result of environmental damage [12]. The socio-ecological-economic system of L. G. Dolmatov and I. A. Petrova is considered in the same vein [11].

This approach to environmental and economic management can be considered classic, going back to the ideas of A. Smith, D. Ricardo and especially representatives of the Austrian school. According to their views, physical volume on a planetary scale does not matter for the value of any resource. Its localization is important. Thus, according to E. Böhm-Bawerk, in order to form the value of a natural (like any other) good, localized rarity is necessary [6, p. 61-75]. Therefore, the more depleted a particular natural resource is, the more valuable it is. Therefore, an orientation towards calculating the

value of any natural resource based on its market value, which is quite convenient for practical calculations in a certain time period, will lead to its more intensive involvement in economic turnover precisely where it is rare, or to its almost uncontrolled withdrawal from natural complexes in those territories where its reserves are large . K.Yu. Alasania believes that the modern behavior of mankind in the sphere of use of natural resources is based on the principles of the neoclassical school, corresponding to the era of the "empty world", which has significant opportunities for extensive growth. At present, it is necessary to focus on the formation of an economic model of high-quality growth. Otherwise, we will face ecological collapse [3]. In itself, the correctness of the thesis about the necessity of this model is beyond doubt. The question is whether there was an "empty world" at all. The "fullness" of the world does not exist in general, but in relation to the available resources. Availability, in turn, is related to the level of development of technology. In addition, it is necessary to take into account that nature changes as a result of internal processes even without human intervention. Various natural complexes were destroyed and continue to be destroyed as a result of metamorphoses of natural complexes. It will not be possible to preserve nature in its present form, even if we stop influencing it altogether. Summarizing various points of view, I.I. Zolotarev writes that sustainability is characterized by several basic provisions: consumption does not decrease over time; production capabilities remain in the future; volumes of natural capital over time do not are decreasing; resource management ensures the maintenance of sustainable income from services through the use of resources; the minimum necessary conditions for the sustainability of ecosystems over time are maintained; consent and institutional development are ensured in society [13]. Sustainability in this case involves maintaining the initial resource parameters of the system (capital and nature) and improving the target parameter (income). It is clear that in a closed system, such as the planet, this is only possible by reducing losses during the transfer of resources between subsystems and increasing the efficiency of each of them. But in this case, development opportunities are extremely limited. Another question is that open systems - countries, regions, local communities - can ensure development through the redistribution of resources from other systems. The way out of the situation on a planetary scale is to transform a closed ecological-economic system into an open one, that is, to create technologies that can ensure the flow of additional resources into it. However, it is the creation and application of new technologies that cause controversy among researchers. In the scientific literature, there is a fairly widespread point of view that technological progress ensures lower environmental intensity of production. Thus, E. Toffler believed that the development of technology and modern technologies of the "third wave" makes it possible to solve pressing problems of production and consumption and shift the focus of humanity towards building effective institutions of a "non-industrial" society. Note that E. Toffler's "non-industrial" society is built on the use of advanced technologies that do not require the massive use of machine production and, especially, heavy manual labor, when, for example, a peasant family in India is forced to spend six hours a day collecting brushwood for heating and cooking[21, p. 525]. In most cases, the assessment of the prospects for interaction between society and nature looks very pessimistic. The problem, in the opinion of researchers, is in most cases an overestimation of a person's ability to block people's own irrational actions in terms of the ability to preserve natural complexes. So, S.M. Pyastolov notes that the scale of human activity has become so significant that we should talk about a new geological era - the Anthropocene. For example, this is evidenced by significant increase in greenhouse gas emissions [18]. In general, the author agrees with the opinion of a number of scientists who consider it necessary to highlight "planetary boundaries" determined by indicators, the values of which should not be exceeded in the course of human economic activity. However, already nine of these indicators have exceeded acceptable limits [18]. The problem, according to this author, lies in the overestimation of the capabilities of modern technologies in solving pressing problems of socio-economic development when the natural balance is disturbed [18]. The question of the technical and technological capabilities of the planetary society, in conditions of increasing the level of its impact on natural complexes, is indeed very acute. It is necessary to recognize their (technical and technological capabilities) limitations. But the question is not whether humanity has a negative (from the point of view of today) impact on nature, but what needs to be done to ensure the conditions for expanded reproduction of society. If we consider simple and expanded reproduction not only from the point of view of the number of people who can live on the planet, but also from the point of view of increasing the volume of products produced (we deliberately do not use the term "goods", since it refers only to a certain type of production) and services, any other direction of development is simply impossible. Production restrictions will be automatic skiy lead to the deterioration of the state of the natural

environment due to the use of nature-intensive technologies. I.A. Bibatyrova believes that the essence of the theory of "green economy" is the recognition of the economy as a component of the natural environment [7]. Therefore:

– all subsystems on the planet are interconnected;

– endless expansion of a person's sphere of influence in a limited space is impossible;

– a limited amount of resources does not allow an unlimited increase in meeting needs [7].

The proposed theses seem problematic to us. Of course, in the literal sense, a "limitless" increase in needs and expansion of the space of people's activities is impossible. But no one proclaims such a goal. In any models of management of ecological-economic systems, we are talking about alternative options for using resources. In this sense, the task may have a technological, socio-economic or institutional aspect. In the first two cases, the volumes and methods of use of any resource can be measured by conventional valuation methods using, for example, balance sheet models. The characteristics of institutional resources and results are currently practically impossible to quantify. When choosing specific areas for managing the sustainable development of ecological and economic systems, practice-oriented researchers usually turn to the reduction in the reproductive potential of the natural environment as a result of human activity. So, N.I. Reus believes that the concept of sustainable development requires attention to environmental constraints: the ability of the environment to neutralize waste from economic activities; prevent degradation of renewable and take into account the exhaustibility of non-renewable natural resources. One of these concepts, which underlies the programs of the Green Party, involves a return to simple technologies, a rejection of scientific and technological progress, and a focus on the social and spiritual improvement of man [19]. This author rightly asserts that the implementation of this concept in practice is impossible. F.F. Abadzhiev draws attention to the traditionally studied characteristics of the ecological system: the volume of emissions of pollutants into the atmosphere, their composition, sources, distribution in time, space, the amount of economic damage. As the main task in the field of environmental and economic development of the city, the author declares the need to reduce the volume of industrial waste through recycling [1]. A.M. Barlukov believes that the greening of material production must be carried out primarily through the use of low-waste and non-waste technological processes, efficient water supply systems, modern methods of wastewater treatment and dust and gas emissions [5]. N.V. Fedorova notes that among the reasons for the significant influence of environmental factors on the development of economic activity are not only economic, but also social. In this connection, it is important to take into account the interrelations of the economic and social subsystems of human communities at any level [23]. T.Yu. Anopchenko, S.A. Karmazin consider it necessary to take into account risks distributed over time when assessing the economic value of nature, instead of actually using the direct counting method [4].

G.E. Plyaskina considers it a negative fact that nature has lost its ability to renew itself, which threatens the existence of humans as a biological species. Arising from the current "unbalanced" development:

– disproportions in population dynamics (low growth rates in developed countries and high growth rates in underdeveloped countries);

– as a result of rapid population growth in underdeveloped countries, there is an exacerbation of the problem of poverty and misery [17].

Recommendations formulated by the indicated author for solving these problems:

– the growth of the Earth's population must be placed under strict control (otherwise, in 75 years the planet's resources will be exhausted);

– building a world based on the principles of justice, equality and others, ensuring economic growth, social development, and environmental protection [17].

Conclusion

The currently discussed thesis about the exhaustibility of certain resources gives rise to discussions about the limits of growth and ways to move along the path of sustainable development. Of course, one cannot say that natural resources are inexhaustible. But, of course, it is worth noting that the forecast

The measured quantitative indicators of limiting resources are constantly updated, as are the expected limits of population growth and the standard of living of the population.

This implies the need to clearly define the basic provisions of the concept of development of environmental and economic systems at various levels: sustainable development; ways to evaluate it; possibilities and limits of unsustainable development; quantitative parameters of systems, indicators of their stability and instability; composition and characteristics limiting technical, technological, natural, social (including economic) properties.

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Economic basis of sustainable development of tourism in Beshbarmag mountain

Ibragimov Anar Shahbaz oglu
State Tourism Agency of the Republic of Azerbaijan,
"Beshbarmag Mountains" State Historical, Cultural and Nature Reserve-Baku
ibrahimov.11.09.97@gmail.com

Summary

After Azerbaijan gained independence, there are many areas in the country that are entering a new path of development. These sites are selected for special tourism purposes. The main reason for both Azerbaijan's history and cultural environment is very ancient with what is directly connected. Today, tourism is a sector that has developed economic and social advantages, with great potential. The globalization of fenomenindən depends on how many other sectors like the tourism sector have witnessed certain changes. Constantly no tourist flows in the long run will be able to be, emphasizing that these studies on this topic enlightenment artıracağı is considered. We can add that in tourism increasing sustainability, at the same time economic progress, but also for quite important, has its position.

In general, like me, the tourism industry, the development of external (exogenous) and internal (endogenous), including two factors have a big impact on. Fransızcadan "walk", "travel"," travel", as meanings that contain the person's tourist main job, other leisure, education, profession, work experience, sports, religious and other purposes, səyahətdir. . This is tələşdan qaçmağın, a new and interesting experience of performing and positive emotions from the achieved best way of outdoor activities, one of the types. Tourism of other countries and regions, cultures, provides an opportunity to get acquainted with, a range of interests, creates a person spiritually enriches, physical health, improves the state and personality, contributes to development. This, of course, new things learning allows you to combine.

Economic factors on tourism the impact of mainly tourism, economic development trends among close contact is due to the fact that. With the economic development of the country, national income, volume and citizens, material well-being, has a direct relationship between. Therefore, in developed economies, states usually have their own citizens, tourist trips by number lead the world market, as a rule.

Keywords: Beshbarmag mountains, tourism, strength, economy, progress

Introduction

In the late 80's, prior to cultural tourism, the tourist market was considered relatively small. Today, new tourism, cultural tourism, mass tourism activities, is the main direction. At the same time, the cultural development of tourism, other branches of socio-economic development in the modern features of the population, labor and consumption, activities and the business sector, both in terms of tourism, desire and services, criteria, among other factors, and to a large extent təsirlənir. Culture, quantity and diversity, the growth of tourism in this industry in several directions functioning serves..

First, cultural objects where investments are made. These, of which only tourists visit, are not just for local people living and working, to increase the attractiveness of recreation and hedonist (pleasure to receive, aimed at) increasing the significance in the context of activities that diversity aims to provide. The concept of living and thus investment and competent labor, attracting in connection with other places, for successful competition, creates favorable conditions. There is also a theater, gallery, historical museum, etc. The local pride and prestige attribute is that it preserves monuments, the construction makes it important. Attracting tourists, a lot of time in the local audience is very small, where for such projects, the implementation of secondary, but necessary part becomes.

Second, the industrial development stage is the completion of many areas of job creation, and based on this social development standards, to protect the economic activity profile of the fundamental changes the need has created. Post-industrial economies respond to challenges in the creative cultural spheres, the development of traditional culture (along with applied arts, various fields and its dissemination, i.e., crafts, fashion, design, recording studios, books and antique trade, etc.). Culture industry today and cities, economic development, and culture across the city in a renaissance movement that has found expression in cultural renewal is considered the most important catalyst.

Third, today in the cultural, designated objects,

the expansion of the composition, in particular, industrial and domestic traditions (and not only "high" cultural heritage and contemporary art samples), reflecting objects of cultural consumption in the sphere of attraction, through includes. Lost roots search for historically post-industrial economies and globalization processes in the hands of national, regional or local kimliklərin formation, associated with this culture attributes of protection and use, encourages.

Tourism sector in today's sense, after the 1950s, the economic and socio-cultural significance of the growing and developing sector, which, although travel; the first of Humanity çağlarından, as always travel and see, heal, religious and social activities, participate in the republic. Tourism; individuals, political and commercial purposes, regardless of whether leisure, entertainment, education, health, pleasure, interest, sports, religion, culture, etc. Tourism sector elements, using for a certain time in the individual or collective form of their activities covers. It is known that in the historical process of travel, an act in the history of mankind occurs together with a person. Over time, the development of civilizations, societies, enrichment, hard work rates cause where people need recreation, vehicles, diversification and increase their systems, development, people, empty leisure increase as a result of every day technological development and the world in various natural and historical values and gozəlliklərin popularization industry has developed rapidly. In the 20th century, the tourism sector, economic and socio-cultural aspects, from the point of view of countries, development, the biggest contribution that could make. (11)

Siyəzən citieshave a decent tourism potential and their sufficient use of the city's economic power can also increase. But despite all this, these lands, a kind of cultural environment of local residents, can meet the requirements, then foreign tourists, so that it is not a chosen space does not play a role. Despite the fact that this city is on the shore of the Caspian Sea, and it is these resursdan, using its economic well-being can provide.

As you know, the rizm of the world economy of the most rapidly developing industries is an important currency income and jobs are the source of many countries, especially developing countries, social, economic and environmental well-being is closely linked. For example, sea or ocean tourism, as well as coastal tourism of developing countries, small island States (SIDS) and coastal least developed countries (LDÖ) are vital economic sektorlardır.

Siyazan territory, but also the history with tourism interested is very important. It is known that there are monuments here, including the citadel of Derbent, long səddi, Beshbarmag Mountains and səddi, Pir Khalil Mausoleum (XVIII century), Sheikh Heydar Mausoleum (XV century), Caravanserai, remains (XV-XVII centuries) and so on. includes. The names above are different between Beshbarmag Mountain tourist potential.

Methods

Without a clear idea of the methodological foundations of scientific research, it is impossible to carry out this process correctly. The urgency of the problem is characterized by the logical connections of sciences, the development of knowledge on the basis of differentiation and integration. This, in turn, makes it even more relevant to approach the problem from the perspective of universal, universal philosophical requirements in the analysis of pedagogical facts and events. System-structural approach method was applied in this research work. The main methodological requirement of scientific research is the application of the system-structural approach to the pedagogical process. With the help of this method, the researcher examines facts, events and processes in parts, and determines how they are connected with logical relationships. By connecting the problems investigated later with the problems investigated from the beginning, it forms them into a system. To achieve this, the researcher must first of all have a clear idea of what the system and structure should be. For this, he must understand the essence of the definition of system and structure in the science of philosophy. In philosophy, this is defined as follows. A group of elements connected by related relationships with the same quality, sign, content and meaning, their relationships are called a system. These connections create a whole chain system.

Beshbarmag mountains, and its uniqueness

Due to the extreme posture, majestic mountains can be seen from the clouds. Climate-the verdict that görnüşə owner of this mysterious monument, all the attention of dalğalanan of the Caspian Sea remains so. This is the space of each north endless üfüqlərinə from the occupied road, on the edge, to itself in the history of the kingdom, built.

Everyone who has ever heard the word about açacağımız date, place, about legendary events. This same place in regards to interest in leads to a further increase.

The speech is still studied in şfsanəfi date from day to day attracts a lot of attention Beshbarmag dağından goes. Its mystical spirit, and all the Siyəzənin air, as if filtered and mysterious places, travel only to the fun cities of their impressions will enhance. Unusual and mysterious all true connoisseurs, of course, of the past, past legends should get acquainted with.

The people of Beshbarmag are a sacred place, based on the fact that, according to legend, the hopes and dreams of gerçəkləşdiyi place. Even in ancient times Beshbarmag mountain of Caucasian Albania inhabitants, a place of worship was.

This is explained very simply. Still monodinlərin-yəhudiliyin, Christianity and Islam from the foundation to, even atəşpərəstlikdən, and then zərdüştilikdən, before the ancient people today many forgot one religion - orolatriyaya in practice did.

It is a mountain, topped by an unusually shaped cliff and in some large daşlara sitayişdir. Unusual is all that ilahiləşdirildi, so the free-standing high rocks of the desire to perform that confidence appeared.

Beshbarmag keeps many secrets, secrets, mifləri, legends. According to some scholars, the” Beshbarmag " mountain name is al fingers, associated with nothing etimologiyaya has. The fact is that until the XVIII century, the Guba Khanate was located here as part of seven districts from the Bərmək district.

Beshbarmag mountains, such a unique nature event that there buludlarla sea, like qovuşduğunu open, can be seen. The territory has a natural topography, and hides many wonders in itself. Baku, just 95 km from the located Beshbarmag mountains on many assumptions, interesting research is available. A mountain range, at the same time a sacred sanctuary account, despite having history and culture as a model and significance. The Caspian coast walking along the burulub Beshbarmag path to the shield mountain yoxuşla mountainside reaching becomes. There are even more grandiose and steep rocky mountains ahead, it seems. Both in historical and cultural value, having this area of the reserve after the proclamation of moral tourism under the name elemetdə additional were. Back in ancient times, the shrines of the position of the mountain bearing in the womb, several types of tourism, opportunities for bəslənirmiş among the birds of köçünü to observe the tourism itself, our national past and mine to learn arxeoturizm, etc. are available. Tourism temple that Beshbarmag on the mountain of the above add rock climbing, equestrian, hipoterapiya, paragliding, some of the extreme sports, etc. tourist products for development and great opportunities. From the main road to the mountain is a sufficient distance, although, it seems that only a hand's reach to the top has touched the skies of ucalacaqsan. Beshbarmag mountains, the territory of religious and moral destinasiya (visit space), including along with, but also a unique natural monument and natural heritage sample, as a unique natural landscape has.

In itself, many typical tourism concepts in religious tourism exist. Currently, religious tourism is at a completely new level of development. True, there are many great religions, the center of worship institutions, as always, and now məşhurdu, but new religious tourist destinations are being developed and partially applied. Religious tours of consumers more believers or Orthodoxy and other religions with a history of interest becomes. Existing in the world, this trend of Azərbaycanada has also begun to exert its influence. Mainly of the Republic of Azerbaijan, the State Tourism Agency of Tourism, ensuring the development of all areas for the emerging new reserves of tourism potentiyalının, in the name of constantly continuing its activities. In the Azerbaijani territory, available and religious tourism points considered "Yanar dag" State Historical, Cultural and Nature Reserve "Ateshgah Temple" State Historical and Architectural Reserve "Beshbarmag Mountains" State Historical, Cultural and Nature Reserve in its individuallığı differs.

A marked place among, recently, the statausu Nature Reserve, which has received the Beshbarmag mountains for its natural lantşaftı and peculiar history of both local and foreign tourists is of great interest to shoot qadirdi. It is with this factor in mind that Beshbarmag Mountain tourism potensiyalını has been widely studied.

Now let's have this extraordinary adventure to master the mountains of legends.

As you know, Alexander farslı concubines in teaching who Barsina III Daranın the whole palace along with his came to him. (He gave birth to the last successor of the Macedonian kings dynasty.) He Isgəndərəəhəməni Empire, on the edge of immortality water from the stream talked about.

This capable ruler of the best döyüşçünü called for his wonderful waters to Beshbarmag on the mountain, sent. But, returning warrior küpəni sındırdı. Warrior I, fearing local artists also packed a duzətdirdi and filled it with ordinary water.

Therefore, during his visit to India, he showed the fearlessness of miracles. However, the new yürüşdən 5 days before he became terribly feverish and died soon after.

Beshbarmag mountain

Oh, not only legends, but also many səyyahlarda have taken notes in their works.

In the XIII century, the French traveler V. Rubrukun in his notes and remembered. Beshbarmagdan the rest of the fortress wall directly into the Caspian Sea before stretching out. 7th century coğrafiyaşünasları is a wall of Horsemen called Van wall. Some researchers believe that this castle is a Shirvan region of Xursan countries singled out.

In the 17th century in the East and in Azerbaijan there was a Dutch traveler Jan Streys wrote: “By the sea, not far from the mountain, we saw. It was called Parmah or Barmah. The top of the mountain drawn out by the index finger looks like this. Once these territories were protected, which serves as a majestic castle. In this fortress, the foundation was laid, a stone, a spring and to this day it has been preserved here”"

The Albanian historian Moisey Kalankatuyski writes that, Beshbarmag on the remaining towers is 438-457 AD. The Sasanian ruler Yezdegird was built.

In 1636-1638, the German traveler Adam Olearius described the mountain in his writings on the territory of modern Azerbaijan.

In general, the stones themselves are more interesting, many of them are whimsical shapes, some of the weather conditions are influenced by the aroma, quickly absorbed, others stand, and others-rain, water flows, resulting in gaps received. Exploring the rocks like a sword into two parts, divided by a stone block, it seems. Nearby is a large stone on a small but long çökəklik road. The local population, according to, in this place (only on Fridays) the holy fresh water that flows, But the prophet tears his healing powers gives. Naturally, this water condenses and or rain process can be collected, and then daşlardakı cracks and yarıqlardan sıza can.

Beshbarmag is surrounded by many unusual shapes, rocks and rocks that can be seen with the naked eye. According to scientists, the mountains around the excavations, thanks to ancient settlements, remains, dishes and household items, samples were found that people in this area for a long time məskunlaşdığını confirms. This fact caravan ruins, fortress walls and local cemetery, in ancient settlements, remains and confirm. Here near in the neighboring small mountains, on the peaks of Beshbarmag mountain similar small rocky massifs seem. This gives reason to say that such rocky massifs this integrity is characteristic of, but Beshbarmag mountains, their largest and şzəmətlisidir and therefore people have supernatural powers, magical properties and unrealistic one thing. Perhaps the energy of people present here, these mountains, is convincing of their wonderful features.

Beshbarmag barrier

The mountains are a historical monument, already accepted. Among these monuments, the historical castles in particularly different.

Date castles and state borders in major metropolitan cities led by and other important habitats and protect built-for-defense systems. Some of them have several hundred during the year were built and now military fortifications monument presents and their location, for the uniqueness and protects. Towers, some of the sea coasts may be located. Solidly built in the fortress for several centuries, its role to fulfill is well-known and qoruduğu lands the enemy attack is exposed to while not sacrificing to ensure safety. Currently, many defensive structures, systems, are not used for their intended purpose, now they are ekskursiyaların

holding popular attractions of yerdirən. This kind of defense system can be found on the territory of Azerbaijan. As is known, throughout history numerous attacks have been made on Azerbaijan basqınlardan to protect the various dövlərdə inşaa's castle and sədlərin each of the peculiar architecture characteristic there is. So, one of the monuments is also from the north of yürüşlərin to avoid the built Beshbarmag səddidir. Written in the article, a səddin of historical significance and its construction technology place is reserved. Beshbarmag səddinin from the north, escaping from for protection from the established ümummüdafiə in the system of the occupied position and use its opportunities for research, practical significance, belong to the category. The written articles also agree with him, pointing out that archaeological excavations are still being conducted in this area, and the səddin part has already been discovered, and research work is still ongoing on it.

The territory of Azerbaijan is wider in its life, opportunities are wider, due to the first one, where people live, places they were on the list. The fraf environment and richness of natural geographical positions may be the reason with this territory sessile out of transition history of qədimə stands. The listed features of the territory of Azerbaijan throughout the history of attacks that have created the ground for. Although kind and hospitable to the character that the Azerbaijani people have, it is good for the neighboring nations when negative feelings are used. It is precisely such unpleasant cases all the time to be prepared for various kinds of weapons, in addition to the production of defensive castles and sədlərdə was built.

The mountains of the Caucasus and the Caspian Sea between the narrow passages in the ancient Khazars, Caucasian Albania, Atropatene and the Ancient East, many countries, peoples of the caravan in the way as served. At the same time, the nomadic tribes of Eastern Europe, the Absheron, the Kura-Araz lowlands, the fertile lands of Western Asia and many other countries, and from this way of using profit. But, marked on the territory of the existing northern states and border security to provide various protections sistemləırindən used that one of them-under construction səddlər was.

From Derbent on Absheron to several places in the Caucasus Mountains, the presence of a number of defensive fortifications in these territories is closer to the sea. The narrowest and most geographically advantageous Caspian road was built on the site of Derbent istehkamları.

From Derbent to add the citadel of Derbent, the long and Beshbarmag fortresses traces have so far reached that they of the Caspian vadisini are completely enclosed and in the mountains before being dragged out.

In the modern mountains, near the majestic thirty-kilometer citadel of Derbent, the long istehkamları in Siyazani mountains is wide and solid, built by Çıraqqala Tower completed. This tamalayan system is a different hoop, and Beshbarmag səddidir.

Caspian vadisini links at least three istehkamların defenses despite the fact that most researchers for some reason are not all available names Derbent istehkamların to inclined. Istehkamların names were as follows: the Caspian Gate, the Albanian Gate, the Sea Gate, peace and War, the God of Derbent Gate is called. Note the actual other Arabic Babal-abvab (door, gate) and Turkish Iron door (iron door) and the name is there. These names, their geographical positions of strategic importance, and to some extent the ethnic mənsubiyyətinin features reflected.

This protection is included in the main sədlərdən system of Beshbarmag səddidir. Beshbarmag mountain from Baku, 95 km. in the north, it is located on the shore of the Caspian Sea (40°57' 30 "s. e., 49°13'56 " s. u.). Open weather today and the Caspian coast of this mountain in a convenient way to see, it happens.

"Beshbarmag mountain and the etymology of its name about many assumptions, stories are available. Perhaps none of them reflects the truth. So, in the written sources of this toponym, the origin of the Bərməki tribe name is explained. Məsudinin "Golden yuyulan place and jewelry crafts" in his work "Bərməki name" a stone known to səddən is narrated. Abbasgulu agha Bakikhanov, a " Gulustani a. Bakikhanov " in the work of Guba nahiyəsinin, located in the south of Bərməki mahal gives information about. From all that has been said, it is also clear that it is in the mountains living in the Bərməki tribe the names associated with the place later changed to uğrayaraq Beshbarmag, as an expression of the languages of the po. "(13)

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Beshbarmag remains of the barrier

In general, the stones themselves are more interesting, many of them are whimsical shapes, some of the weather conditions are influenced by the aroma, quickly absorbed, others stand, and others-rain, water flows, resulting in gaps received. Exploring the rocks like a sword into two parts, divided by a stone block, it seems. Nearby is a large stone on a small but long çökəklik road. The local population, according to, in this place (only on Fridays) the holy fresh water that flows, But the prophet tears his healing powers gives. Naturally, this water condenses and or rain process can be collected, and then daşlardakı cracks and yarıqlardan sıza can.

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True, the "Beshbarmag titles" of other yozumu are there. It is said to be a toponym of ancient Turkish for "meaning", which is parmaq " sözündəndir. In the 9th century, the Arab traveler Al-Məsudinin's writings encountered the first local toponimdir.

The people of Beshbarmag are a sacred place, based on the fact that, according to legend, the hopes and dreams of gerçəkləşdiyi place. Even in ancient times Beshbarmag mountain of Caucasian Albania inhabitants, a place of worship was.

This is explained very simply. Still monodinlərin-yəhudiliyin, Christianity and Islam from the foundation to, even atəşpərəstlikdən, and then zərdüştilikdən, before the ancient people today many forgot one religion - orolatriyaya in practice did.

It is a mountain, topped by an unusually shaped cliff and in some large daşlara sitayişdir. Unusual is all that ilahiləşdirildi, so the free-standing high rocks of the desire to perform that confidence appeared.

“Its historical significance, and as for the original medieval written sources of Beshbarmag səddi about a number of data, occupies a place. Historians Yegişe and L. Parpetsinin in their notes mention this defense of the walls by Albanians and Huns between the erected fortifications, where it is brought to attention. V in the first half of the century in Albania

and the Sasanian State, built by Səddin in 452 by the Huns by dağıdıldığı assumed. The dağıdıldıqdan barrier, then on the site of a new one, is built not instead of, but rather the citadel of Derbent, a long along Shabran defensive tower is built.” (14)

This fact also proves that səddin's presence and fortifications every time the Sasanian state was in the spotlight was. Mulumdur that in the long-standing Sasanian-Byzantine war over the northern borders security was considered a highly relevant issue. It also becomes clear that this barrier is from the north, which may come from the Turkish stream, to avoid the constructed defensive system.

“In the modern era of Beshbarmag səddinin, the first description in 1925 of the Beshbarmag archaeological ekspedisiyasını, carried out by E. A. Pakhomov, from the outside is presented. E. A. Pakhomov, from the outside, found that, Beshbarmag Mountains and the Caspian Sea between the coastal strip of 1.75 km, was. According to him, kərpiclərin qalınlığının 7 cm is mainly used here, so far I have installed it. Paxomovun believes that kərpiçlər is used here more than in the III-VII centuries, the kərpiçlərinə era.” (12)

Səddin remains of the Baku-Baku trunk road, 150 m east of the straight line for more than a year, as is known. From the main road, about 500 m in the east səddin remains at a width of 5 m, in which there is a void, təxm. 700 m in the east, and a height of 2 m, which is located on a hill there. A barrier on such hills, the presence of səddin on the walls and towers stacked is an indicator. To the sea came səddin height from the north, 5 m, from the south 2 m. It probably needs more defense than the north, with the appearance associated. On the seashore with each other, there are connected stretches along the hills. Səddin, and part of it probably disappeared under the water. In 1969, an underwater archaeological research team determined that a monument on the Caspian coast, a second terrace in the northern and southern sədləri connect. From the shore 60-70 m from the sea, on the second terrace there is a. v. P. Kvacidzenin according to Beshbarmag ramparts of the sea, according to the level built (8).

"Beshbarmag Mountains" State Historical, Cultural and Nature Reserve was established on June 8, 2020 by the President's decree. The territory of the reserve of Siyazan district Qalaşıxı, located in the village of Beshbarmag mountains, the nature of the monument covers the territory.

Azerbaijan, unique natural monuments that surround the Beshbarmag mountains, taken under state protection a number of historical and cultural monuments (late Bronze – early iron, belonging to the period of residence, Xızırzində pir, the medieval remains of a fortress of the XV-XVII centuries, the remains of a caravanserai), where. In the medieval Beshbarmag parallel to the defense səddi "Caspian Coast Guard construction" within 2001, 24 October UNESCO Urgently Qorunmaya in Need of Material and Cultural Heritage in the Original List were included.

2021-th year on July 1, the Cabinet of Ministers on the part of the Reserve approved the regulation.” (15)

It should be noted that, Beshbarmag parallel defensive walls, Beshbarmag tower and around the monuments, about various sources of information can be found gəlinsə, and the date is accurate, only archaeological excavations, with the help of can be restored.

"ANAS, Institute of Archeology and Ethnography researcher Joy Huseynova guides "Beshbarmag" archaeological expedition from the side of the reserve for the first time conducted scientific research, the main purpose of the history of Beshbarmag fortress, its close to historical cemeteries, medieval caravanserai, Sasanids belonging to the period of defense of səddinin, other structures, architectural features, period of determination the region's future, cultural tourism, prospects for monuments to explore with the help of prepare proposals were.

Preliminary studies, as a result of the Beshbarmag fortifications, and in the sources listed 4 castles bürcündən both tapılaraq locations are identified, Citadels inside the structures, two açılaraq locations and assignments for some scientific results have been achieved. “Beshbarmag” Reserve in the territory of the archaeological research of the territory of cultural heritage value was carried out in the future, local and foreign tourists better explain what makes the relevant cultural tourism products, preparation, but also Beshbarmag territory scientific and archaeological point of view, the study of one stage, as before itself, came out.

Citadels inside are quadrangular in plan structures that float rock tracks with hörülüb. 3x4 m ölçülərində of buildings in the lower part, 4 layers after antiseysmik event, as walls along the entire perimeter of the seismic belt, named kətillər, wooden beam material düzülüb. Rooms on the east wall of the oval-shaped wheelchair are installed. A luscious noise descended, providing the influence of blushing and hisdən qaralıb. Rooms of the XIV-XV centuries, ceramics, remains found. From the buildings of the lower strata, the wall remains reveal fortresses of earlier periods, which gives reason to say.

Medieval sources described 4 castles of bürcündən one of bürcə next to the fortress wall, part of qazılaraq explored. 8 m diametrində of large stones built by the citadel tower, creating and fortress walls, the remains remain here, the city,

attests to the existence.

Fortresses in the south-east of the destroyed buildings, the remains of which were investigated in the region. Here are the remains of the 19th-early 20th century relating to residential buildings in the ruins where it was installed. It is noteworthy that the construction of houses during the more ancient periods of sənduqələrdən building material, use as was. Residential buildings on the walls of sənduqələrdən building material, as widely used for the first time encountered. Each quadrangular structure on the walls has one or two sənduqənin that can be observed. Sənduqələrin with geometric and floral ornaments are decorated. Some naxışların end of the six pointed ulduzla ends.

In parallel to the walls, exploration work carried out on one of them determined the direction of development. This is the wall, Qalaşıxı village, starting the sea stretches up to. Səddin in the north, in two places of the constellation or observe the remains of the tower were discovered.” (15)

Currently there are rocks at the foot of the defensive walls, the remains can be seen. Historians consider the territory of the Sassanid Empire to be in the hands of spending time in the rocky massif of both sides, the defensive walls of hörülmüşdür. The walls (width 2.5 m, height about 3 m), where noted in the IV-VII centuries, in the Caspian Sea in the territory of Azerbaijan, which attacked massagetlər, Khazars, Huns, Alans, as a warlike nomadic city to protect against medieval kərpicindən and river stones were built. sea. It is worth noting here that, starting from Derbent in the north-west of the country, similar istehkamlara, as well as qalalara, darvazalara and walls can be found in the territories. In historical defense sites, buildings used material from the partner's point of view, even if it has them, but also combines a single installation purpose.

Result

In general, both in Azerbaijan and in the world, the sustainable development of tourism, and this is built on the development of the economy, management, and practice of recommending tourism in all types, including various segments of the economy. The strength of the principles of tourism development environmental, economic and socio-cultural aspects are related to long-term sustainability, to ensure these three dimensions, a balance between them must be ensured.

Beshbarmag mountains, such a unique nature event that there buludlarla sea, like qovuşduğunu open, can be seen. The territory has a natural topography, and hides many wonders in itself. Baku, just 95 km from the located Beshbarmag mountains on many assumptions, interesting research is available. A mountain range, at the same time a sacred sanctuary account, despite having history and culture as a model and significance. The Caspian coast walking along the burulub Beshbarmag path to the shield mountain yoxuşla mountainside reaching becomes. There are even more grandiose and steep rocky mountains ahead, it seems. Both in historical and cultural value, having this area of the reserve after the proclamation of moral tourism under the name elemetdə additional were. Even in ancient times, the shrines position of the mountain, carrying in the womb, several types of tourism, opportunities for bəslənirmiş. Among the birds of köçünü to observe the tourism itself, our national past and mine to learn arxeoturizm, etc. available. Tourism temple that Beshbarmag on the mountain of the above add rock climbing, equestrian, hipoterapiya, paragliding, some of the extreme sports, etc. tourist products for development and great opportunities. From the main road to the mountain is a sufficient distance, although, it seems that only a hand's reach to the top has touched the skies of ucalacaqsan. Beshbarmag mountains, the territory of religious and moral destinasiya (visit space), including along with, but also a unique natural monument and natural heritage sample, as a unique natural landscape has.

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16.

Evaluation of the financial method of activity of international companies in land cleaning and environmental protection

Kamala Huseynova
Lecturer of Department of Management, Western Caspian University
Baku, Azerbaijan
0000-0003-1199-1041

The degree and depth of soil pollution on the Absheron Peninsula is completely different from the pollution observed in mines. This is due to the fact that in the early stages of oil and gas production, which lasted for more than one hundred and fifty years, and environmental issues were not at all on the agenda, fluids were discharged directly into the area. As a result of such impact on the environment for decades, heavy fractions have penetrated to depths of up to 10 meters. Thus, not only the soil layer, but also the rocks located at a considerable depth were damaged.

Currently, the proposed biological solutions are limited to the treatment of the soil layer and shallow subsoil, which does not help to solve the problem. This is explained by the fact that after biological treatment at a small depth, if rainwater or recultivated land is used for agricultural needs, the fractions originating from the geological substrate, displaced by irrigation water, will over time get closer to the surface and poison the soil layer. As for mechanical cleaning methods, they involve expensive operations to remove, clean and return the soil to its place. Taking into account the depth of penetration, the cost of operations for complete cleaning of damaged layers with such methods will be quite high.

From the point of view of the amount of hydrocarbons and their location specifics, the condition of contaminated soils and geological substrates in Absheron is extremely similar to the location of hydrocarbons in the Athabasca oil sands field in Alberta, Canada. SAGD (Steam Assisted Gravity Drainage), the main technology for extracting bituminous fractions from oil sands in Alberta, cannot be applied here. does. In addition to SAGD technology, a number of less intrusive technologies are also successfully applied. For example, it is possible to influence the layers by means of alternating and direct current, solvents and oxygen. There is also extensive experience and various technologies in the field of soil and subsoil removal and treatment by mechanical/flotation treatment. However, the DXR (Direct Current Extraction) extraction method of bituminous fractions applied by the Canadian company "Ground Effects Environmental Services" (GEE) can be considered the most appropriate method for cleaning oil-contaminated soils in the coastal zone of the Caspian Sea. The following advantages of this method allow to choose in favor of this technology according to the factor of adequacy of the method of cleaning the area in question.

Advantages of DXR method compared to open separation methods:

- that it is quite effective for work at said depths;
- no need for large-scale earthworks;
- depth of production rate, up to 95%;
- production of salts and heavy metals along with hydrocarbons;
- large scale of the method;
- no need for large amounts of water;
- availability of access to electrical networks;
- iterative processes related to product improvement;
- lack of liquid waste;
- lower energy
- consumption compared to the use of open
- separation methods (80 kW per hour compared to 400-800 kW per barrel)
- the volume of earthworks is twice as small as compared to the use of open pit methods
- CO_2 waste reduction;
- Limiting the impact on the environment;
- lower main and operating costs;
- efficient adaptation of open pit, biological and other methods;
- establishing minimum requirements for infrastructure;
- modularity;
- absence of geological and depth restrictions;
- Low cost of 1 barrel - $15-21 during industrial application;
- start of production 2 months after commissioning - return of capital investments in a short period of time;
- waste reduction;
- Limiting the impact on the environment;
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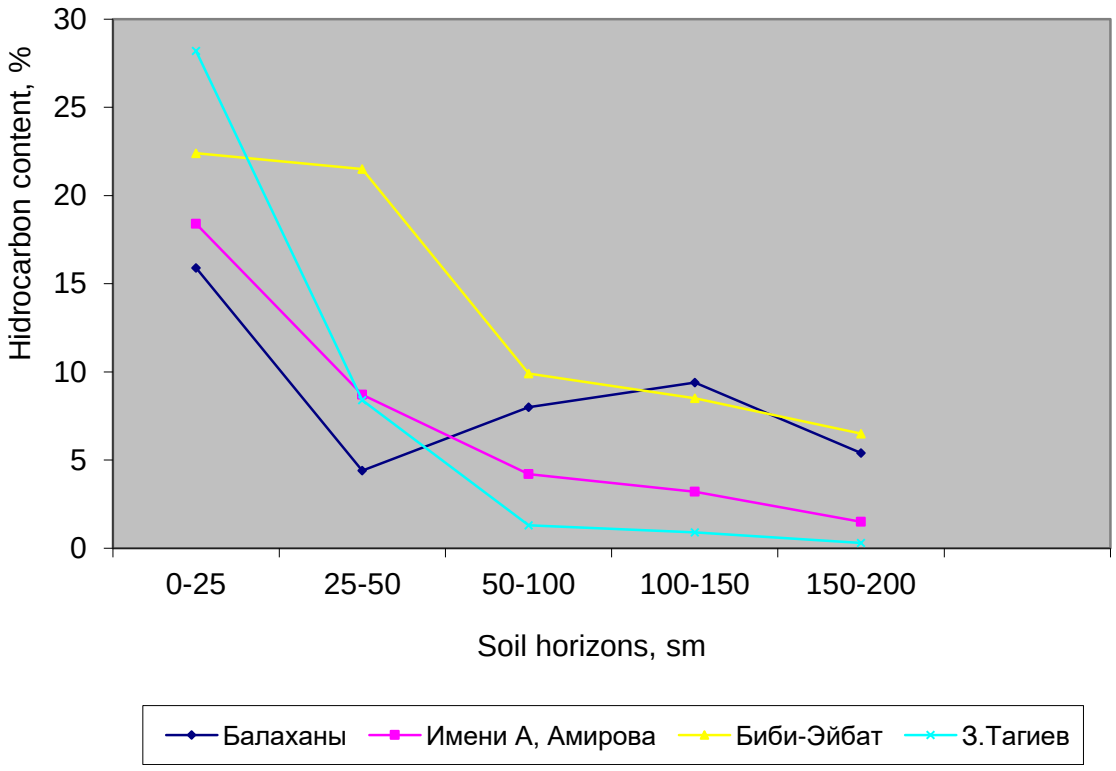
It is necessary to clean the bottom sediments of Baku Bay from petroleum hydrocarbons. The most perfect and adequate method of cleaning bottom sediments is the thermodesorption method proposed by the Italian company "EcoFly" under the leadership of the company "Markab". Most of the bottom sediment cleaning technologies are similar – the bottom sediments are first excavated and pre-dried, and then the following cleaning methods are applied to them: thermal (heating of the soil to facilitate the separation of oil products from the soil; burning as fuel); physical-chemical (chemical extraction; pneumatic fractionation); biological (application of bacteria or based biopreparations, humic acids). Therefore, criteria such as cost-effectiveness and ecological cleanliness should be used to select the bottom sediment treatment project. The Italian company "EkoFly" has just such a technology. Its advantages include;

small volume of waste with harmful substances;

it ensures the economic efficiency and ecological cleanliness of the same process, which is suitable for use in the same process for the purpose of recovery of hydrocarbons and generation of thermal energy;

the entire process is under control and controlled remotely



Drawing. 1. Contamination of soils and soils of the aeration zone with petroleum products in the territory of four surveyed oil and gas production departments of SOCAR on the Absheron Peninsula

Investments (capital investments) are a set of material, labor and money resources aimed at the wide reproduction of all sectors of the national economy. Investment is a relatively new term for our economy. Within the framework of the centralized planning system, the concept of "total capital investments" was used, which implies the reproduction of the main funds, including the costs related to their repair. Investments are a broader concept. In that sense, it includes real investments, which are close to our term "capital investments", as well as "financial" (portfolio) investments, that is, investments in shares, bonds and other securities directly related to the title of entrepreneur, which gives the right to receive income from ownership. Financial investments can become both an additional source of capital investments and the subject of a stock market game in the securities market.

However, part of the portfolio investments of investments in shares of enterprises belonging to various areas of material production do not differ in essence from direct investments in production. The main directions of the investment policy are defined in the relevant textbooks. The following main tasks of this policy are highlighted: creation of a favorable environment that leads to the increase of investment activity of the non-state sector, attraction of domestic and foreign private investments for the reconstruction of enterprises, as well as state support to the most important types of production and social areas, which are vital in increasing the efficiency of capital investments. providing support.

The following indicators of the effectiveness of capital investments are more widespread (25);

net current value (profit) - NPV (net present value);

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· profitability of investments - BCR (benefit-cost ratio);

profitability period - PB (period of benefit);

internal rate of return - IRR (internal rate of return).

Given indicators are used in two variants, as are their corresponding methods.

- to determine the effectiveness of possible independent investment projects when a decision is made to accept or reject the project;

- to determine the effectiveness of mutually

exclusive projects when deciding which one to choose from among several alternative projects

Let's consider each of these indicators in detail.

Net Present Value (NPV)

Net Present Value (Net Present Value, NPV) the concept is widely used in investment analysis to evaluate different types of capital investments. The present value of the future financial flows of the investment project is calculated taking into account discounting and deducting investments. The net present value is calculated using the following formula, using the projected financial flows associated with the planned investments.

$$NPV = \sum_{i=1}^{N} \frac{NCF_i}{(1+r)^i} - Inv \quad (1.2.1)$$

Here, NCFi is the net financial flow for stage "i", Inv is the initial investment, r is the discount rate (the cost of the capital involved for the investment project). A positive NPV indicator indicates the effectiveness of capital investment. The above formula is valid only for the simple structural case of financial flows, where all investments coincide with the beginning of the project. In more difficult circumstances, the formula may need to be complicated for analysis purposes to take into account the distribution of investments over time. In most cases, investments for this are adjusted to the beginning of the project, analogous to revenues. Return on Investment (ROI).

Return On Investment (ROI) is a financial indicator that characterizes the profitability of investments

ROI is a generalized analysis formula of the profitability of free investments in assets. This formula is expressed as follow

$$\boldsymbol{ROI = \frac{Profit + (Sale\ price - Purchase\ price)}{Purchare\ price} * 100\%} \quad (1.2.2)$$

Here:

profit - income obtained during the ownership of the asset;

purchase price - the price at which the asset was purchased;

selling price – the price at which the asset is sold (or can be sold) after the expiration of the ownership period.

When analyzing financial reports of companies, the term ROI in most cases refers to a group of financial indicators that characterize the profitability of various components of capital or the profitability index of the investment.

Payback period of the project (PBP)

PBP it shows the period necessary to pay the expenses incurred on the investment by the income generated by the investment, taking into account the discounting. This indicator is determined by consistently calculating the NPV for each stage of the project. The point where the NPV will be positive will be the breakeven point (Figure 1.1.).

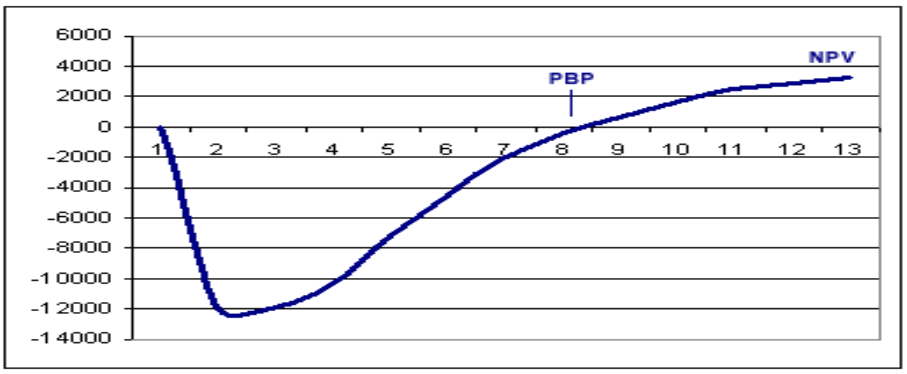

Figure 1.1. The ratio of PBP to NVP at the break-even point

IRR (internal rate of return)

Internal Rate of Return - IRR) – the rate of return generated by the investment (25). This is a rate of profit (hurdle rate, discount rate) at which the net present value of the investment is equal to zero, or it is a rate of discount at which the discounted income from the project is equal to the investment costs. The internal rate of return determines the most appropriate rate of discount at which funds can be invested without any loss for the owner

IRR = r, here NPV = f(r) = 0,

Its value is found from the following equation:

$$NPV(IRR) = \sum_{t=0}^{n} \frac{CF_t}{(1+IRR)^t} - \sum_{t=0}^{n} \frac{I_t}{(1+IRR)^t} = 0 \qquad (1.2.3)$$

CFt – cash flow during period t; It – sum of investments (expenses) in period t; n – total number of t periods (intervals, steps) = 0, 1, 2, ..., n.

The economic meaning of this indicator is that it shows the expected rate of profitability (investment profitability) or the maximum permissible level of investment costs for the evaluated project. The IRR must be higher than the average cost of investment stocks: IRR > CC. If this condition is met, the investor can accept the project, otherwise the project must be returned.

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[12] Azerbaijan State Statistics Committee

The potential of mountain tourism and its cultural revival in post-war Ukraine

Viktoriia Boiko[1], *Nataliia* Lavrenko[250], and *Natig* Mirzayev[3]

[1] PhD in Economics, Associate Professor, Associate Professor of the Department of Tourism, Hotel and Restaurant Business, Kherson State Agrarian and Economic University, 73006, 23 Streetenska Street, Kherson, Ukraine
[1] PhD in Agronomy, Associate Professor, Associate Professor of the Department of Land Management, Geodesy and Cadastre, Kherson State Agrarian and Economic University, 73006, 23 Streetenska Street, Kherson, Ukraine
[3]PhD in Economics, Associate Professor, Dean of the Faculty of Business and Local Governance, Western Caspian University, AZ1072 17A Ahmed Rajali Street, III Parallel, Baku, Azerbaijan

Abstract

Mountain tourism plays an important role in the general field of tourism due to its multifunctionality and influence on various aspects of socio-economic and cultural development. It is one of the most ecological types of tourism, which contributes to the preservation of the natural environment and biodiversity. In the context of the growing demand for active recreation and a healthy lifestyle, mountain tourism meets the current trends in recreation, offering unique opportunities for physical activity, including hiking, mountaineering, skiing, and extreme tourism. Mountain regions tend to have a rich cultural heritage, which makes them attractive not only for outdoor enthusiasts but also for those interested in history and culture. The article is devoted to the analysis of the role of mountain tourism in the processes of economic recovery and the promotion of cultural recovery after the war. The study examines the potential of mountain regions, in particular their ability to stimulate local development by attracting tourists, creating new jobs, and developing infrastructure. Special attention is paid to the impact of tourism on the revival of cultural heritage, the preservation of historical monuments, and the support of traditional crafts. The study presents the forms of mountain tourism, in particular, ski tourism, which is classified according to the main types: recreational, sports, and extreme. The main directions of recovery of mountain tourism in Ukraine after socio-economic upheavals, in particular in the post-war period, are identified. A SWOT analysis of the development of mountain areas of Ukraine was carried out, covering the analysis of strengths and weaknesses, opportunities, and threats for the development of mountain tourism. Conclusions have been made regarding the development prospects of mountain areas, taking into account their cultural, natural, and economic potential in the conditions of the post-war reconstruction of Ukraine.

Keywords: mountain tourism, ecology, current trends of recreation, economic recovery, socio-economic upheavals.

Introduction

Mountain tourism in Ukraine has significant economic potential, which has not yet been fully realized. Mountain regions not only attract tourists due to their natural beauty and opportunities for active recreation but can also become important centers for cultural revival. In the conditions of modern economic challenges, such as the global crisis and military aggression of the russian federation, it is important to find new ways to strengthen the economy, and mountain tourism can become a key factor in this process.

First of all, it is worth noting that mountainous areas often have significant natural and cultural potential. Their uniqueness lies not only in natural landscapes but also in rich cultural heritage. The restoration and development of mountain tourism will contribute to the preservation of traditional crafts, gastronomy, folklore, and other cultural values, which, in turn, will attract tourists looking for an authentic experience. The creation of new jobs in the areas of hospitality, catering, and transport services, as well as in related industries such as agriculture and crafts, will have a positive impact on the local economy. Tourist flows can provide financial support for the development of infrastructure: roads, communications, and medical services. Investments in these areas will not only improve the quality of life of residents but also make the region more attractive to tourists.

Environmental responsibility is an important aspect of the development of mountain tourism. The growing popularity of eco-tourism can become a driving force for the conservation of natural resources and ecosystems. Responsible tourists are willing to pay for cleanliness and nature conservation, which in turn is an additional source of income for local communities. However, for this, it is necessary to develop clear rules and standards that will ensure balanced development without harming the environment.

The cultural revival of mountain tourism in post-war Ukraine is a complex process. It should combine the restoration of national identity, the development of regions, and the preservation of natural and cultural heritage. The post-war reconstruction of the country

50 Corresponding author: lavrenko.sr@gmail.com

opened up opportunities for new approaches to tourism focused on ecological and cultural values. Mountain tourism, as a form of active recreation, is important for strengthening social stability and restoring local communities. An important aspect is the revival of traditions and crafts accompanying tourist activities in the Carpathians and other mountain regions. The recovery of mountain tourism after military events requires a comprehensive approach that includes investments in infrastructure, educational programs for local communities, and international cooperation in the field of conservation of natural and cultural resources. Thus, mountain tourism in post-war Ukraine will become not only an economic factor but also a means of cultural revival, which will form new social values and ensure the preservation of national heritage in the face of global challenges.

Literature review

The problems of the development of mountain tourism as one of the types of recreation and a specific direction of health tourism were comprehensively covered in the works of many researchers, who characterize mountain tourism as a type of active recreation, which differs from mountaineering in terms of the purpose and complexity of the routes. The publication notes that mountain tourism in Ukraine is less developed due to geographical features, but has potential for development, especially in the Carpathians. Important conditions for its popularization are the creation of an infrastructure and legal framework to support business in the region [1]. In the context of the state tourism policy of Ukraine, mountain tourism affects the economic development of regions and the preservation of natural resources. An important aspect is the need to integrate mountain tourism into the general strategy of state administration [2].

Other scientists are considering plans to reconstruct the Ukrainian tourism industry, focusing on the restoration of the cultural heritage damaged by the war. The article analyzes specific measures that can be taken to restore damaged objects, such as historical monuments, museums, and cultural centers. In addition, the author emphasizes the importance of international cooperation in this process, noting the need to attract foreign investors and partners to finance restoration projects. There is also an assessment of cultural losses, in particular, numerous acts of vandalism against cultural heritage objects, which emphasizes the urgency and importance of measures to preserve Ukrainian culture [3]. An important aspect is the study of the problem of the development of the tourism industry of Ukraine and the world as a result of the global crises caused by the COVID-19 pandemic and the war in Ukraine. They predict changes in the nature of domestic tourism in Ukraine, in particular, the growing popularity of cultural, educational, and memorial tourism after the end of the war. The international experience of restoring tourism after military conflicts and the factors that can affect the development of the industry are analyzed. Priority measures are also proposed to restore the tourism sector, in particular, improving the image of Ukraine as a safe country for tourists and attracting investments [4].

Scientists analyze the ecological, cultural and economic characteristics of mountain tourism, emphasizing its growing popularity in the context of the COVID-19 pandemic. The study points to a variety of activities that attract tourists, in particular, sports and health activities in mountainous regions. The authors also emphasize the importance of balancing the economic benefits of mountain tourism with the protection of the environment and the cultural heritage of local communities. In addition, the study contains recommendations for government structures and professionals of the tourism industry regarding the implementation of sustainable practices in the management of tourist destinations [5]. The results obtained by scientists emphasize the importance of indicators of sustainable tourism for monitoring and managing the development of tourism in vulnerable mountain ecosystems [6]. Scientists note that the planning and revitalization of mountain rural tourism is necessary to increase the income of local communities. This affects the development of the structure of tourism in rural areas, and the attraction of investments to increase the tourist flow [7].

So, the research confirms the importance of the development of mountain tourism not only in the world but also in Ukraine as a potential driver of economic growth, preservation of cultural heritage, and environmental sustainability.

Materials and methods

Before the coronavirus pandemic and the full-scale invasion of the Russian Federation into Ukraine, the tourism sector accounted for 2.3% of GDP and provided about 375,000 jobs. However, the real contribution of tourism to the quality of life and well-being of Ukrainians was greater, because its multiplier effect stimulates spending in related industries: transport, trade, food establishments, etc. [8].

One of the important changes in the tourism sphere of Ukraine during military operations was the reformatting of regional priorities for travel [9-12]. If earlier the majority of tourists in the summer period chose to rest at the sea, then a much smaller part of the population preferred mountain rest, as a type of active tourism, which involves traveling through mountain ranges to improve health or learn about natural and historical and cultural objects. Mountain tourism is characterized by a high level of physical activity and is often associated with certain difficulties and risks due to specific natural conditions. Depending on the difficulty of the route and the height of the mountains, tourists use special

equipment such as trekking poles, ropes, carabineers, climbing shoes, tents for high-altitude conditions, and other equipment to ensure safety and comfort.

Mountain tourism greatly depends on the season. Summer trips allow you to climb peaks and passes, while in winter this type of tourism can be transformed into skiing or snow trekking. Weather conditions in the mountains often change, which requires preparedness for unforeseen situations. This type of travel contributes to physical and psychological improvement, as it combines physical exertion with being outdoors in a clean environment. Traveling through mountainous regions, tourists discover new natural landscapes, flora, and fauna, visit cultural and historical sights, and get acquainted with the local traditions and customs of mountain peoples.

Mountain tourism has several levels of complexity - from simple excursion routes to complex multi-day expeditions in the highlands, which require not only physical training but also technical mountaineering skills. This is a diverse type of tourist activity, it has many forms that differ in purpose, means of transportation, and level of activity. The following forms of mountain tourism are distinguished [13]: cycling, horse riding, rural, ecological, hang-gliding, skiing, mountaineering, automobile, motor tourism, agro-tourism, and speleo-tourism. Tourists are invited to choose recreation options according to their interests, physical capabilities, and level of training.

Mountain tourism includes many activities that allow you to enjoy the beauty of mountain nature. Ski tourism is especially popular among them, which attracts fans of winter sports (traditional downhill skiing, snowboarding, freeride, backcountry, ski touring, ski mountaineering, downhill skiing tours, snow tubing, downhill skiing camping [14]). This type of tourism combines exciting skiing with wonderful mountain scenery, creating unique experiences for every visitor.

Ski tourism can be classified according to the main types, each of which has its characteristics and characteristics:

- Traditional ski tourism is the most common type, which includes skiing on prepared slopes of ski resorts. The tracks are divided into different categories of difficulty, making them accessible to everyone, from beginners to professionals. Resorts usually have infrastructure for a comfortable vacation, including lifts, ski schools, and maintenance.

- Snowboarding - this sport is becoming increasingly popular, especially among young people. Snowboarding requires a specific technique because balancing on one board and maneuvering requires certain skills. Many resorts have special areas for snowboarders, including parks with obstacles and jumps.

- Free ride - this style of skiing attracts those who are looking for adrenaline and impressions of nature. Free ride allows you to ride on unprepared slopes where there are no restrictions, but it also requires athletes to have a deep knowledge of the terrain and the ability to assess the avalanche danger. For freeriding, it's important to have the right gear, including avalanche gear, to ensure safety.

- Backcountry - this type of tourism focuses on wild and untouched natural landscapes, usually without any infrastructure. Backcountry involves independent hiking in the mountains using special equipment, as well as knowledge of navigation and survival techniques. It is an ideal choice for those who love adventure and nature.

- Touring skis - focused on trips during which skiers can enjoy the scenery, and make overnight stops in mountain hostels or tents. It combines skiing with elements of hiking, allowing you to enjoy nature and socialize with other tourists.

- Ski mountaineering - this sport combines skiing and mountaineering. Skiers climb peaks using special equipment such as ski bindings and mountaineering equipment. After reaching the top, they descend, which provides a unique experience and a sense of freedom.

- Ski tours are organized trips that cover several resorts or regions. Groups of skiers have the opportunity to discover new slopes and landscapes, making each trip unique. These tours usually include excursions, training, and off-piste activities.

- Snow tubing is a fun and easy way to enjoy winter activities that is suitable for people of all ages. Riding on inflatable wheels, you can get a lot of joy and adrenaline, especially in specially equipped areas. This type of recreation usually does not require prior preparation.

- Ski camping is a combination of skiing and outdoor recreation. Participants can spend the night in tents or mountain hostels, enjoying the nature and atmosphere of the mountains. It is an ideal option for those who love active recreation and are ready for new challenges.

Each of these types of tourism offers its own unique experiences and opportunities for outdoor recreation and is suitable for different categories of tourists, depending on their interests and level of training.

Ski tourism in Ukraine has various classifications, which allow one to distinguish different types of skiing, levels of difficulty of tracks, and infrastructure of resorts. One of the key categories is beginner resorts where you can safely learn the basics of skiing. Another group includes

resorts for experienced skiers looking for more challenging routes and extreme descents. With this in mind, many ski resorts in Ukraine satisfy various requests of tourists. Let's consider the most famous ski resorts of Ukraine, which attract the attention of skiers from all over the country:

1. Bukovel, Ivano-Frankivsk region. The most famous and best technically equipped ski resort in Ukraine with tracks for athletes of any level. This is a resort with a well-developed infrastructure: there are cafes and restaurants, hotels and clubs.

2. Dragobrat, Transcarpathian region. This highest resort in Ukraine is located at the junction of coniferous forests and alpine meadows. The resort is known for its world-class freestyle tracks. Some of them are laid through the forest, so fans of extreme skiing will be interested here. You can also ride snowmobiles, snowmobiles, or horses at the resort.

3. Slavske, Lviv region. The resort with a mild mountain climate and developed infrastructure, located 130 kilometers from Lviv, is known as the official center of alpine skiing. There is also night skiing in Slavske. The resort also has the longest chair lift in Ukraine, the length of which reaches 2,700 meters.

4. Pylypets, Transcarpathian region. The resort is located at the foot of the Khimba and Magura-Zhyda mountains and is considered the cradle of Ukrainian free ride. There are equipped tracks for beginners and advanced skiers, as well as tracks for fans of cross-country skiing. Height - 700 meters above sea level. The length of 8 local ski slopes is 20 kilometers. There is no artificial snow at this resort.

5. Krasia, Transcarpathian region. This ski complex on the slope of the mountain of the same name in the village of Vyshka is suitable for both athletes and families with children. You can come here from December to mid-April. Even in the height of the season, there are no large crowds of tourists on Krasia. The resort has 4 tracks.

6. Plai, Lviv region. The location is located in the center of the Carpathian Mountains, is one of the popular ski resorts of Ukraine, and is developing quite quickly. There are 6 ski slopes. The resort has modern infrastructure - cafe, restaurant, spa center, saunas, swimming pools.

7. Vodianiki, Cherkasy region. The Vodyaniki ski sports and recreation complex is located in the very center of Ukraine. This is a fairly young resort, which started functioning in January 2009. It is equipped with the most modern equipment and snow guns. There are 3 mountain tracks for active recreation. In addition, there are ski jumps and a snowboarding track in Vodyaniki.

8. Myhovo, Chernigiv region. This resort will be loved by those who want a calm, measured vacation for a family with children. The season usually lasts from December to mid-April. The resort has 4 ski tracks, one of which is specially equipped for snowboarders [15, 16].

Results and discussion

Mountain tourism in Ukraine has traditionally been an important component of the national tourism industry, attracting both domestic and international tourists. But with the beginning of hostilities in the east of Ukraine and the annexation of Crimea, and especially after the full-scale invasion of the Russian Federation on the territory of Ukraine, mountain resorts faced unprecedented challenges. First of all, the tourist flow has significantly decreased. Domestic tourists began to avoid travel due to fears for their safety, and international tourists stopped viewing Ukraine as a safe vacation destination. These factors have led to a decrease in the occupancy of hotels and facilities, a decrease in demand for the services offered by the resorts, and, accordingly, to financial losses. Many mountain resorts began to feel the crisis because their business model was built on the seasonal flow of tourists. The drop in visitors has led to a drop in revenue, which in turn has led to job cuts, business closures, and reduced investment in infrastructure.

With the loss of Crimea, Ukraine has lost a significant part of the resort infrastructure that was once important to the tourism sector. This led to the loss of millions of hryvnias of income, which previously came from tourists.

After the end of the war, Ukraine should focus on the restoration of mountain tourism. Main directions: Infrastructure restoration (investing in the modernization of lifts, tracks and services, which will attract more tourists); Attracting investments (creating favorable conditions for investors who can help restore tourism infrastructure); Marketing campaigns (Promotion of Ukrainian ski resorts at the international level to restore confidence in the country as a tourist destination); Improving security (Implementation of measures to ensure the safety of tourists, which will be critical for restoring the tourist flow); Diversification of offers (Expansion of the range of services, including ecological and active tourism, to attract different categories of tourists).

Therefore, it is necessary to pay the main attention to the restoration of infrastructure in mountain resorts. Many resorts, such as Bukovel, Dragobrat, and Zakhar Berkut, need to modernize lifts, slopes, and service facilities. Attracting investment and recovery programs will help restore tourist attraction. To restore the image of Ukraine as a skiing country, it is necessary to develop a comprehensive advertising campaign. Promotion through social networks, international travel exhibitions, and cooperation with travel agencies

will help attract tourists. In the context of global environmental trends, Ukraine should pay attention to the development of ecological tourism. Implementation of ecological practices in resorts can become a competitive advantage. In addition to traditional skiing, the development of other types of active recreation, such as snowboarding, freeriding, snowmobile tourism, and winter hiking routes, can attract different categories of tourists. Investments in staff training, including instructors, service staff, and administrators, will be essential to improve service quality and meet the needs of tourists.

In the conditions of the growing popularity of ecological tourism and active recreation, it is important to conduct a SWOT analysis, which will allow us to understand the key factors influencing the development of mountain tourism and identify potential ways for its growth and sustainable development (Table 1). Having identified the main aspects, we will be able to formulate strategies that will help maximize benefits and minimize risks, thus ensuring the successful implementation of tourism projects in mountain regions.

Table 1. SWOT analysis of the development of mountainous areas of Ukraine

Strengths	Weaknesses
Natural resources (diversity of natural resources: forest, minerals, water resources); Tourist potential (summer and winter tourism, ecotourism); Availability of nature reserves and national parks; Cultural heritage (unique culture, traditions, and folk crafts); Geographical location (border areas with the possibility of developing cross-border cooperation).	Infrastructure (underdeveloped transport and social infrastructure); Economic dependence (dependence on the agricultural sector and limited development of industry); Youth emigration (outflow of youth in search of better opportunities); Lack of investments (insufficient involvement of investors in the development of regions).
Opportunities	**Threats**
Development of tourism: (attracting investments for the development of tourist infrastructure); Grants and programs: (use of international grants for environmental and social projects); Agroecological initiatives (development of organic farming); Technologies (implementation of the latest technologies to improve the lives of residents); Attracting tourists (holding festivals, cultural events, and activities for tourists).	Climate change (impact of climate change on ecosystems); Military conflicts (uncertainty due to the geopolitical situation); Degradation of ecosystems (deterioration of the state of natural resources due to anthropogenic influence); Economic instability (decrease in investment due to economic problems and military actions in the country); Mass emigration (loss of labor force and decrease in demographic indicators).

Mountain tourism needs proper state regulation, security, and support. For the sustainable development of this direction in Ukraine, not only the existing socio-economic, political, and legal prerequisites are necessary, but also the active efforts of the initiators of this movement. An important factor is the integration of the unique human potential of the mountainous regions of Ukraine with the state strategies for the stimulation of rural tourism and the development of the corresponding infrastructure.

Currently, there are real prerequisites for further improvement of state policy in the field of mountain tourism development. Some steps in this direction have already been taken. In particular, the Law of Ukraine "On the status of mountain settlements in Ukraine" regulates the criteria based on which settlements receive the status of mountain settlements, and also defines the main principles of state policy regarding their development. In addition, the law guarantees social protection for citizens who live, work, or study in such regions [17].

Domestic tourism peaked especially in the winter period. Several factors influenced this: firstly, people traditionally go to the Carpathians for the Christmas holidays, and secondly, many hotels offer comfortable accommodation with light, hot water, and heating, which is especially necessary due to the constant shelling of critical infrastructure in winter. In addition, mountain massifs help to be alone and, at least for a short period, escape from the maelstrom of events and regain strength [18].

Conclusions

Mountain tourism has great potential in the process of the post-war recovery of Ukraine, as its development can positively influence related sectors

of the economy and attract foreign investments. Increased interest in Ukraine, improved logistical connections with the EU, as well as the active participation of foreign citizens in volunteering and supporting refugees, can contribute to the growth of the number of tourists from abroad after the stabilization of the security situation. Mountain tourism, in particular in the Carpathians, has significant prospects, but for its successful development, it is necessary to create the appropriate infrastructure and legal framework. In times of war, it is important to integrate mountain tourism into national tourism policies and recovery strategies. The main emphasis should be on attracting foreign investors and implementing sustainable management practices. The development of mountain tourism can significantly improve the economic situation and the quality of life of local communities.

The integration of the Ukrainian economy into the EU economic system, in particular the improvement of the transport infrastructure, the transition of the railway to the European track, and the opening of new border checkpoints will increase the accessibility of Ukraine for foreign citizens. However, effective development requires a systemic approach that includes the creation of favorable conditions for business and investment, as well as ensuring safe travel, especially through the improvement of public order and health systems. The growing interest in Ukrainian cultural heritage in the world opens up a unique opportunity for its discovery, preservation, reinterpretation, and worthy presentation not only for the international community but also for Ukrainians themselves. It is important not to lose this chance to restore the tourism sector.

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Anatomy of modern economic relations and its features

***Habil Aslanov*[1], *Mansur Madatov*[2]**
[1] Baku State University, Akademik Zahid Khalilov Street, 33, Baku, AZ1148, *Azerbaijan*, *dosent1966@mail.ru*,
[2] Western Caspian University, Istiqlaliyyat Street, 31, Baku, AZ0001, Azerbaijan,
mansur.medetov@wcu.edu.az, *0000-0002-1067-7141*

Abstrakt. Economic crises occur when supply increases or demand decreases in the real economy and finance. At the same time, the high economic growth experienced in the world stimulates the economic crisis. Also, economic changes such as globalization, expansion of integration, liberalization of foreign trade, newly emerging large markets also lead to the emergence of global crises.

Economic crises can arise from excess supply or contraction of demand in the real economy and finance. There are various reasons for the emergence of a crisis of supply and demand. There may not always be "economic reasons" for the emergence of economic crises. For example, natural disasters occurring in the country (storms, earthquakes, fires, floods, etc.) can create an economic crisis. Some of the economic crises are caused by internal and external factors. A serious change in the political, economic, technological and environmental fields can lead to the emergence of an economic crisis. In addition, the high economic growth experienced in the world always stimulates the economic crisis. Basically, the following economic changes can lead to crises:

- Globalization;
- Expansion of international and regional integration;
- Increasing liberalization of foreign trade;
- Emerging large markets;
- Stock exchanges, growth of market potential of developing countries.

The anatomy of the global economic crisis has been studied in detail in the article, along with what has been mentioned.

Keywords: economic crisis, globalization, liberalization, foreign economic relations, global financial market.

Introduction

Sudden conjunctural changes and fluctuations in the general level of production and prices in a certain period can lead to crises such as depression, hyperinflation, and unemployment. The change in business environment occurs as a result of the natural development of the market economy. In addition, government intervention in the economy (such as sudden devaluation, increase in tax rates or tax burden), and economic crisis can occur as a result of the loss of competition and bankruptcy of companies that lag behind the development of science and technology. Thus, science and technology are one of the main elements that show competitive power [1, p. 146].

However, the following can be cited as internal and external causes of economic crises.

The internal reasons are as follows:

- non-payment of debts on time, lack of cash
- lack of regulation, irregularity in financial markets
- production and service lags, high economic growth, hierarchical management, centralism
- lack of coordination, lack of planning, etc.

· External causes are as follows:

- wars, earthquakes, floods, climate changes, etc.
- production technology change, inventions, scientific innovations, biotechnology
- hyperinflation, deregulation, fierce competition, integration, decrease in demand, decrease in supply, globalization, increase in economic liberalism, increase in tax rates, depression, etc.
- political instability, government crisis, military coup, etc. [2,s.216].

Global economic situation before the crisis:

According to the McKinsey Global Institute in 2007, there are 3 factors responsible for the global liquidity glut:

1. Central Banks and Large Funds of Central and Eastern Europe, including Asian countries;
2. Large investors of OPEC countries;
3. Investment Funds.

These 3 factors began to control and manage the global financial system with a wealth of approximately 11.5 trillion dollars since 2000. This capital glut has led to an exorbitant appreciation of capital prices in the global economy.

The reason for the financial crisis that began in Asia in 1997-1998 and covered the whole world was the rapid capital flight, and in this regard, the

countries of Southeast Asia, which saw the excessive depreciation of the national currency, indexed their national currencies to the US dollar in order not to experience the same crisis again, and the current surplus and high Central Bank they formed part of their reserves from dollars. Previously, they changed the main part of this capital to US Treasury bonds so that this foreign exchange surplus did not allow the national currency to gain value in the domestic market and export markets were not negatively affected. This situation resulted in short-term low interest rates in the United States and pressure on short-term rates. In order to ensure the growth of exports, China and other Asian countries implemented the policy of setting low interest rates in this way, created the illusion of high economic growth and low inflation in industrialized countries, including the United States. During this period, the reserves of the Republic of Uzbekistan increased 5 times compared to 2000 and reached 2 trillion dollars, and including China, they became 5 trillion dollars. Export-based development in Asian countries led to an increase in global raw material prices. China and India accounted for about 70% of the rapidly growing global hydrocarbon demand since 2000. Global energy supply not meeting demand, oil and natural gas prices rose to the highest price in history (147 dollars). At a time when prices are very high, reserves are 4trln dollars. OPEC countries reached Russia, global liquidity increased. Since 2000, the number of investment funds has increased 3 times, about 2.5 trillion dollars. had an investment. Thus, the total capital of investment funds, insurance companies was concentrated in one pool.

During this period, the budget deficit in the United States is 1 trillion dollars. passed. Because of this global liquidity liquidity surplus, foreign capital entering the United States from 1995 to 2008 was 6.5 trillion dollars. passed and during this period, the total foreign trade deficit was 1.7trln dollars. was enough. In 2008, foreign investors made up 52% of the US public debt, which reached approximately 10 trillion dollars. China and Japan account for about 44% of foreign investors buying US Treasuries. The free movement of goods and services, the development of technology, and the ease of movement of capital led to more capital flowing into the US economy in particular. The ratio of total consumer and mortgage debt to disposable income increased from 77% in 1990 to 127% in 2008. At the end of 2008, world stock markets fell to the level of 1997. Property prices have lost 18% from their peak in 2006. The private sector, the engine of the economy, reduced spending by 3.1%. Unemployment, which was 4% in 2006, exceeded 7%. The United States and England, which have not intervened in the financial market for years, and many industrialized countries were forced to take measures to save the banking system and financial markets. In the United States and England, financial institutions have been bailed out, and the state has no choice but to accept the partnership of companies. In this way, the financial system is under control. Examining financial markets in a historical perspective, let's show how this situation arose. The current complex and confusing financial instruments were created in 1971 when Richard Nixon canceled the dollar-gold barter and ended the Bretton Woods system in response to the growing trade deficit and damage caused by the Vietnam War. In the Bretton Woods system, capital could not move freely from one country to another. However, with the transition to a floating exchange rate system, a new era began in the financial markets. Supporters of M. Friedman, the idea that Keynesianism has already collapsed and that it will be fine without intervention in the markets has expanded in the eyes of the decision-makers. The biggest supporters of the Chicago school were D. Reagan and M. Thatcher. A free market with free and unregulated capital movement has increased the volume of mortgage lending in the financial sector. Financial operations of insurance companies and investment funds abroad became easier. These greatly increased the volume of foreign securities and treasury bond trade in the international financial markets (the volume of buying and selling during the day was 4 trillion dollars). Since 1980, the control of inflation in the United States created conditions for the growth of the financial sector. During this period, properties began to gain value rapidly. This situation led to an increase in the share of the financial sector in the national income from 5% in 1980 to 23.5% in 2007. [3, p.97.]

The emergence of the mortgage crisis in the United States.

The modern Global Crisis began with banks and financial institutions giving out mortgage loans to people who could be at risk of repayment with very low collateral and interest without serious risk analysis, with the idea that in an era of low interest rates, unacceptably high prices would rise. Rapidly rising property prices have been the main hedge against default risk for banks and financial institutions. As a result, it became clear that the people who took the mortgage loan could not cover the loss caused by the banks with the increase in property prices in case of uncertainty. The loan repayments were packaged into small parts and sold to foreign investors in the form of fixed-income bonds and securities. When the home owners, these

payments were collected by the servicing agent and the investors were paid as interest income on the bonds sold. Under normal conditions, banks should issue a mortgage loan after conducting a risk assessment and accept it on their accounts until the loan is due. Banks were responsible for non-repayment of loans during this period. Here, the mortgage lending institutions had to be responsible for borrowers' failure to pay the debt on time due to the fact that they sold these loans to foreign investors in the form of mortgage securities with a fixed income value. Consequently, non-payment of the mortgage loan created a problem for foreign investors. In other words, the chain of communication between the lender and the buyer of the mortgage loan is broken. Banks were already building risk distribution techniques instead of risk analysis and assessment. Foreign investors who buy these securities and take loans from other people and banks by pledging them, and the loans are insured, spread the risks around the world that do not seem to exist. The reason the system was so intertwined was the idea of companies and investors spreading risks to keep both the markets and the overall economy healthy. In the modern financial system, there is a lack of full measurement of the risk carried and the lack of knowledge of who bears this risk. In this era, everyone seemed to be winning. Banks attract cheap credit and earn interest: investors buy securities that seem profitable and risk-free; and consumers got a home loan at a low interest rate and became a home owner. The tax policy of mortgage loan payments in the United States has also created conditions. These conditions have led to rapid growth in the market. According to the Bank for International Settlements, the value of securities in the world financial markets increased to 75 trillion dollars in 1998 and 600 trillion dollars in 2007. Currently, the share of risky mortgage loans, which is only 600 billion dollars, in all mortgage loans was 21% in 2006, and in 1995 this rate was only 9%. Cheap imports from China and low inflation, capital from Asia and OPEC countries also financed the current deficit. The US, UK and CIS have been interested in the development of financial markets due to additional taxes on rising service sector revenues, low interest rates and increased home buying. Despite the crisis, the financial sector in the United States still accounts for 20% of the private sector.

At the end of 2007, real estate prices in the United States began a rapid decline. The crisis began when mortgage holders surrendered their properties to banks in lieu of their remaining debts as the value of their homes continued to decline. In the United States, mortgage borrowers were responsible for the value of the property's collateral. In other words, due to non-payment of mortgage loans, banks or financial institutions could only buy the mortgaged property.

In the years 2001-2007, the price of real estate in the United States increased by 90%. In 2004 alone, the price of real estate in the United States increased by 20%. Starting from 2007, prices began to fall. It has already decreased to the level of 2002.

In order to bring the level of mortgage borrowing to a normal level and revive the markets, the FED took the risk of 600 billion dollars related to the recently nationalized Fannie Mae and Freddie Mac structures. During the crisis, the Euro acted as an alternative to the Dollar in the financial markets. While the Euro was 18% as a reserve of world Central Banks in 2000, it reached 27% in 2008.

A decrease in consumer demand in anticipation of lower prices leads to a decrease in aggregate demand and a further decrease in prices. One of the indicators of the contraction in the global economy is the drop of 1 barrel of oil from 147 dollars to 45 dollars. According to the IMF, 52 countries, including industrialized countries such as Canada and Australia, whose exports and budget revenues depend on natural resources, have been seriously affected by the fall in prices. Economic instability has arisen in countries that export natural resources due to declining exports and declining budget revenues. Due to the decline in global spending, the US, Europe, UK and Japan entered a period of stagnation. In the USA, starting from the II quarter of 2009, the economic crisis entered the revival phase. In the middle of 2007, serious problems started in the real estate markets in the United States and created a crisis at the global level. The causes of the crisis include the abundance of liquidity and cheap loans given as a result, inaccurate property valuations, risky loans, delays in the intervention of regulatory and control organizations. The size of the US market stimulated China, East Asia and OPEC countries to increase capital investment in its economy. The global liquidity glut has led to an expansion of consumer credit and an increase in property and consumer goods prices. The growth of consumer credit, the misjudgment of risk, a financial system that allowed stock markets to soar unchecked to spread risk, and allowed consumers to spend more than they earned created the conditions for the crisis. Emboldened by fluctuations in the financial system, low interest rates, skyrocketing property prices, and tax policies that encourage property purchases, mortgage companies began issuing mortgages without a down payment, believing that customers would appreciate property prices and therefore pay off their debts. Thus, the number of property owners has increased rapidly in the last 10 years. Consumers who thought their

wealth was growing began to take out more consumer loans, including car and student loans, and credit card expenses. As a result, the price of real estate in the United States doubled between 1996 and 2006, but from 2007 it fell rapidly, and the period that led to the deepest financial crisis since the crisis of 1929-33 began. During this period, there were sharp differences between the financial market and the real market in the United States. Thus, while GDP production was 13 trillion dollars, the volume of buying and selling in financial markets was 500 trillion dollars. Mortgage companies delayed interest payments due to mortgage defaults due to market saturation. Mortgage funds went bankrupt as mortgage companies failed to meet their obligations. Bankruptcy declarations, additional liabilities increased interest rates, economic investment decreased, customer funds were diverted to pay off debt obligations, and investment decreased. The recovery in the production market has stopped. A decrease in aggregate production reduced aggregate consumption. This crisis created the financial crisis as a problem of economic distribution. In modern times, Neo-Keynesian policy has expanded, taxes should be reduced, budget expenditures should be reduced, the state should nationalize bankrupt companies. Aggregate demand and aggregate supply should be stimulated in a comprehensive manner. As a result of the crisis, the total recession in the world was close to 3%.

Due to the decrease in the price of the property that provides security for the mortgage loan, the loan interest rates have started to rise due to the increase in the risk of the loans. Due to the inability of most borrowers to pay their increasing loan debts, their bad debts have increased rapidly and mortgage companies have suffered huge losses. The fact that real estate loans were sold to international buyers by Investment Banks through new financial institutions under the guise of being re-rated by Risk Assessment Agencies has globalized this crisis. As a result of the serious reductions in the price of the acquired risks after that, the capitals and values of these acquiring companies melted and the stock market value fell rapidly. Defaulted mortgages in downtown Chicago bankrupted the banks that bought the loans in England.

The modern financial crisis began in 2007 when people and investors who took loans from banks to buy millions of properties in the United States could not pay their debts. As a result, lending banks and financial institutions failed to pay their obligations in parallel. The bankruptcy of banks had a negative impact on the activity of all sectors of the US economy. During the periods of abundant liquidity in the United States (2000-2006), banks were given more than the value of the property.

3. Results. Although everyone closes the anatomy of the international economic crisis with mortgage loans, the issue is actually much deeper. What happened in real estate and financial markets arose from the disturbed macroeconomic situation of the country. The US economy has had some long-standing fundamental problems. As one of them, in 2001-2006, the FED (US Central Bank) kept interest rates at a very low level. Even the head of the Fed, Alan Greenspan, was criticized for this. Financial markets always need appropriate control of the state in time. History has already proven this during the great crisis of 1929-33. C. M. Keynes proved that the market economy needs state regulation. [4, p.185.] The excessive liberality of the US Fed to Commercial banks and the cheap credit policy caused the current collateral credit crisis. Normally, when commercial banks give loans, 2 main factors should be taken into account in order to determine the interest rate: the interest at which funds are attracted and the financial strength and condition of the borrower. In 2000-2006, liquidity in financial markets increased rapidly. At the head of these transactions were mortgage loans. This company, which expanded in society as NINJA (no income, no job, no asset) loans, rapidly increased property prices. Non-payment of some mortgage loans has started. Banks offering these properties in the market has caused property prices to fall. In such a situation, some borrowers who are still paying off their mortgages have found it unprofitable to pay off the value of their homes due to the low value of their remaining mortgages. Therefore, these mortgage debtors refused to return the loan by putting the house keys in envelopes (jungle mail) to the banks.

The tragic issue here is the resale of loan payments by banks to other financial institutions and banks and the expansion of capital market participants who buy these houses as collateral. So they shared their losses and risks with other banks. For this reason, losses spread like dominoes from one financial institution to another and led to the collapse of the financial system. As the former head of the US FED said, the real cause of the crisis, along with the loans, was the packaging and resale of those loans to other banks.

The FED (Federal Reserve System) in the United States is one of the reasons for the expansion of the crisis in the delay in its regulatory function. In his May 2007 announcement, the head of the Fed stated that the distress in the real estate market will not spread to other areas of the economy and the financial system. In practice, it was the exact opposite. During two and a half years, the problems

that started in the real estate market entered the entire financial system and the real economy.

Due to the impact of the financial crisis on the real economy, there has been a decrease in GDP in the United States, Europe and the CIS. After 2007, there was an economic recession in both the EEC and the EEC.

Since the year 2000, debt interest rates have been low in the United States, so borrowing has become easier, and the debt ratio of both the population and investors has increased sharply in the country. Also, the function of interest to regulate risk has decreased sharply. During this period, financial institutions obtained capital, funds more easily and gave loans at low interest rates and terms. The granting of mortgage debt to customers with low repayment ability and risk has increased, the aggregate demand for real estate has increased, and the prices have been artificially inflated. Despite these fundamental problems, continued low interest rates, high consumption, and massive borrowing have created inflated balloons in many areas. Now these balloons are deflating. What is confusing right now is not that the economy is in crisis. What is really puzzling is that the crisis has come so late. People who normally don't need to be loaned got into debt easily by taking a mortgage loan. The fact that the interest rates were very low made borrowing easier. So why have bank interest rates been so low in the last 10 years? The answer consists of 3 letters. China. Let's clarify this important issue. It was mainly China that created the capital surplus in the US. Thus, in 2000-2006, China and OPEC countries invested 5 trillion dollars in the US economy. According to the market economic law, the price of any factor of production decreases if it is in excess. One of the reasons for this crisis is that the capital in the market exceeds the norm. As a result of excess capital in the United States, it was easier to get a debt loan. Banks facilitated the granting of credit to the risky population group through mortgages. As a result, consumption increased so much that it greatly exceeded the real income of the country, and naturally those who borrowed more could not pay their debts. Debtors and, in parallel, major US Banks and credit institutions could not meet their obligations. It is no coincidence that the crisis first affected the banking sector. Banks have a liquidity problem. As is well known, banks are considered the "blood vessel" system of the economy. Thus, the crisis penetrated all sectors of the US economy. Naturally, the financial crisis in the United States, which produces 13 trillion GDP (equal to about 26% of world production), has spread to other countries of the world. At present, it is well known that the economies of the countries of the world are dependent on each other in a chain.

Discussion

As we all know, the prices of basic raw materials bought and sold around the world, mainly oil, are realized in US dollars. This situation, together with the recognized dominance of the United States after World War II, has been able to continue this situation until now and turned the dollar into an easily found measure of value and investment tool around the world. [5, p. 117.]

The US's astronomical budget and trade deficit is well known. The US has increased its balance of payments deficit since 1997. 125 billion in America in 1996. the current negative trade balance in dollars was 522 billion dollars in 2003 and 811 billion dollars in 2006. to dollars, and in 2008 to 1 trillion. surpassed the dollar. In such circumstances, the Central Banks of some countries, including Russia and China, threatened the United States by announcing that they would sharply reduce their reserves in dollars. Thus, they demanded the need to reduce the deficit of the balance of payments of the United States. This required a reduction in consumption for America. A crisis was needed to reduce the consumption of the US population. This crisis will and has affected the countries that supply America's consumption. The most feared scenario here was that the crisis would lead to a major bankruptcy, meaning that a drop in consumer spending could raise prices sharply. America, which saw this action many years ago, expanded its occupation in the world in order to have a larger volume of oil, which controls world energy sources and therefore energy prices, in order not to have a big loss, and took control of Iraqi oil. have little effect on its economy. The rapidly decreasing demand in the United States naturally forced countries such as Europe, Japan and China to reduce their production. Stagnation has started in these countries and unemployment has increased. The highest unemployment (7%) has been recorded in the United States in the last 27 years. GDP production decreased by 3.8% in the 4th quarter of 2008. This is the highest figure recorded since 1982. According to most experts, trust and confidence in the world financial markets have been destroyed, and the crisis will continue until this trust is not restored.

The US is the world's largest consumer and consumes more than it produces, meaning it always has a deficit in the balance of payments. Countries such as Europe, Japan, China, and Canada provide the additional demand of the United States. Instead, the United States issued additional money and gave it to those countries. China had a positive trade

balance mainly in the field of exports to the US economy. In other words, the US was spending, while China was rapidly increasing its reserves and capital. So, what does China do with this currency and capital flowing to its country? This is the most important thing. China reinvested a large part of its earnings in the US economy.

Thus, while the US economy was running an astronomical $1 trillion budget deficit, China, which had a positive trade balance, quickly ensured that the US economy was comfortably in debt.

Finally, the high growth, consumption, and borrowing situation in the US economy was crucial to further accelerating China's own level of development. For this reason, for more than 20 years, China, whose GDP growth has increased by more than 10% per year, has attracted foreign capital and investment into its economy, while putting most of this gain into the US economy. It is enough to mention that in 1980, 18 billion. China's dollar exports reached 1.5 trillion dollars in 2016 and became the world's 2nd largest exporter.

Thanks to high budget deficits, low interest rates, technological progress, and increasing indebtedness, the United States experienced one of the fastest growth periods in its history from 1994 to 2000. The United States, which experienced a production and consumption explosion built especially on the Internet and information technology, exhibited a healthy appearance during these years. Meanwhile, the trade deficit continued. However, due to high growth, increased tax revenues ensured that the economy ran a budget surplus. Clinton-Greenspan's prudent monetary and budget policy lasted only 6 years. In the early 2000s, the already inflated NASTAQ index rose. George W. Bush, who won the elections that year, lowered taxes to eliminate the stagnation in the economy, and the budget deficit began to increase seriously. Meanwhile, US post-9/11 war spending in Afghanistan and Iraq secretly increased the budget deficit. But despite all this, interest rates remained low and the US economy maintained high borrowing growth thanks to China, East Asian and OPEC countries buying US securities. Thanks to this, %s remained extremely low and property prices rose rapidly. Property prices increasing by an average of 10% per year were an indication that the market was severely over-inflated. But, due to the lure of low interest rates, both banks and consumers acted blindly and took too big a risk. Many low-income people who bought high-priced houses were unable to pay off the home loan. As a result, the crisis in the mortgage credit system hit the financial sector from September 2008. This had a domino effect on other countries.

Along with the financial crisis, there was a serious upheaval in the US economy, from where it moved to Asian and European economies. Naturally, the crisis affected other countries and their large banks and financial institutions, covering all areas of the economy.

Despite the billions of dollars circulating in the world's financial markets, this crisis progressed and led to an economic upheaval on a global scale.

The crisis in the United States, which began in mid-September, was one of the most severe crises in its economic history. During the crisis, some companies went bankrupt, some companies began to consolidate due to the fear of bankruptcy, but the crisis continued, and due to capital investment mistakes in the US financial market, it inevitably passed to Asian and European countries.

The way out of the global crisis is the joint struggle of countries against the crisis. Aggregate demand and aggregate supply at the global level should be stimulated in a rational way.

The famous US economist Joseph Sitiglitz, the Nobel laureate, defends the need for reform in the face of the global financial crisis and proposes the establishment of a new financial architecture. If this is not created, the world's poorest countries will suffer. Noting that the financial crisis that began in the US property market turned into a global recession, Sitiglitz assumed that the global economy would decrease by 1.5% in 2009. According to him, the crisis could not be a national event. He notes that in 2009, compared to 2007, unemployment in the world will increase by 30-50 million, and if measures are not taken, the number of poor people in the EEC will increase by 200 million. According to him, a new world financial system should be established and the IMF should be reformed.

One of the most important problems in this period was to correct the positive impact of the global credit mechanism not only on the interbank bases, but on the real economy in the field of banking. On the other hand, the appreciation of the dollar and the fall in the price of oil could increase wealth growth and demand. This could help to get out of the crisis.

During the crisis, it was necessary to ensure microeconomic balance. For this, political economic stability, restoration of trust and confidence in the market, regulation of financial and monetary policy, reduction of the budget deficit, restructuring of the tax system, reform of interest rates and external debt should be carried out.

Conclusion

There are similarities between the current global financial crisis and the Great Depression of 1929-33. During the great crisis, thousands went bankrupt, a period of devastating inflation began, the national income of many countries decreased by more than 30%, and the unemployment rate rose to 25%. The relations between the state and the private sector have been revised, and the necessity of the state's intervention in the economy (Keynesianism) has been practically proven in order to get out of the crisis.

Currently, unemployment and economic recession are not at the level of a major crisis, but there is a similarity in terms of government intervention in the markets. With the interventions of the US Treasury and FED (Central Bank), the two largest companies of the Mortgage Credit market were nationalized, the world's largest insurance company (AIG) was controlled and $3.4 trillion in the money market fund was guaranteed, and open sales on the stock exchange were prohibited. Outside of the banking sector, the US government spent 787 billion to support many industries, including the automotive sector, against the crisis. received the Stimulation Package worth USD. During the crisis, Investment Banks in the United States came to a complete standstill. Lehman Brothers went bankrupt, Bear Stearns and Merrill Lynch were bought by major commercial banks, Goldman Sachs and Morgan Stanley weakened. Investment funds and valuation companies have shrunk dramatically. A new Finance is expected to emerge in the coming period, in which there will be very few players.

The main function of the financial sector is to transfer investment to all areas of the economy. According to the global development report, the level of economic development in the United States will gradually stabilize until 2025. On the other hand, Brazil, China, Russia, India, Turkey, Indonesia and Iran will become economically stronger, and the external and internal development of the European Union will expand. After emerging from this financial crisis, world markets are expected to have more different economic and financial parameters.

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Alternativ enerji mənbələrindən istifadə - enerji təhlükəsizliyinin təminatıdır.

Sevda Mikayılova

AR Elm və Təhsil Nazirliyi, İqtisadiyyat İnstitutu,
“İnnovativ iqtisadiyyat və rəqəmsal transformasiya şöbəsi”

Xülasə

Məqalədə dövlətin yeritdiyi struktur siyasəti nəticəsində iqtisadiyyatın bütün sahələrində elmi-texniki, investisiya, innovasiyaya əsaslanan “Yeni iqtisadiyyatın” formalaşmasından bəhs olunur. Strateji əhəmiyyətli enerji və ekoloji təhlükəsizliyinin təmin edilməsi üçün ölkədə alternativ enerji mənbələrindən istifadə etmək məqsədi ilə təkliflər verilir.

Açar sözlər: İnnovasiyalı iqtisadiyyat, ekoloji, enerji təhlükəsizliyi, alternativ enerji mənbələri, biotermal, geotermal, hidroenerji, günəş və külək enerjisi.

Milli iqtisadiyyat struktur bir sistem kimi hər şeydən əvvəl makroiqtisadiyyatın bütün ünsür və blokları ilə şərtlənir. Bununla yanaşı, hər bir ölkə iqtisadiyyatının strukturu xarakteri təkrar istehsal, investisiya, resurs innovasiya, maliyyə, əmək, texniki - texnoloji və s. obyektiv amil və şərtlər hesabına baş verir. Bu amilləri burada geniş şərh etmədən xüsusi qeyd etmək lazımdır ki, eyni vaxtda müstəqil dövlətə çevrilən və yeni iqtisadi sistemə keçən respublikamızda iqtisadiyyatın strukturunun formalaşması xarakteri və dinamikasına qeyri - iqtisadi və subyektiv amillər həlledici təsir göstərmişdir.

Dövlətin yeritdiyi struktur siyasətinin səmərəliliyi həlledici dərəcədə bu prosesdə ölkədə həyata keçirilən elmi-texniki, investisiya, sənaye, aqrar, valyuta, maliyyə - kredit siyasəti ilə uzlaşdırılaraq reallaşdırılmasından çox asılıdır.

Azərbaycanda milli iqtisadiyyatın formalaşdırılması və inkişafı ilə bağlı Ümumilli lider H.Əliyevin təşəbbüsü və bilavasitə rəhbərliyi ilə başlanmış və bu gün də hörmətli prezidentimiz Ali Baş Komandan İlham Əliyev cənabları tərəfindən uğurla həyata keçirilən sosial - iqtisadi inkişaf konsepsiyası öz bəhrəsini verir.

Bu baxımdan müasir dövrdə dünyanın sənayecə inkişaf etmiş ölkələrində innovasiya proseslərinin güclənməsi əsasında iqtisadi artımın keyfiyyətinin dəyişdirilməsi, iqtisadiyyatın bütün sahələrinin elm tutumluluğunun artması, texniki tərəqqinin nəticələrinin istehsala tətbiqi müddətinin qısaldılması, elmi fəaliyyətin əməli xarakterinin kəskin güclənməsi, bütünlükdə ölkə iqtisadiyyatının təkrar istehsal baxımından qarşılıqlı zəncirvari əlaqə və asılılığının güclənməsi ilə xarakterizə olunan «Yeni iqtisadiyyat» formalaşır. Bunları nəzərə alaraq qloballaşma şəraitində perspektiv dövr üçün respublikamızda Milli iqtisadi inkişafın başlıca istiqamətləri dəyərləndirilərkən dünya iqtisadiyyatında müşahidə olunan bu aparıcı meylləri hökmən nəzərə almaq lazımdır.

Son illərdə ölkəmizin iqtisadi inkişafının makroiqtisadi təhlili göstərir ki, davamlı inkişafın ilkin şərtlərini formalaşdırmaq üçün innovasiya əsasında müvafiq struktur və ümumən optimal makroiqtisadi siyasəti formalaşdırmaq və əməli cəhətdən onu reallaşdırmaq lazımdır.

1968-ci ildə yaradılmış Roma klubu görkəmli alimlərdən, siyasətçilərdən, müəssisə sahiblərindən, hətta kral ailələri üzvülərindən ibarət olan “beyin fabriki” idi.

Ərzaq və enerji təhlükəsizliyi məsələsi bütün dövrlərdə dünyanın görkəmli tədqiqatçıları tərəfindən öyrənilmişdir. Roma klubunda bu haqda yığıncaqlar keçirilmiş, təkliflər verilmişdir.

Sonralar bu təşkilat beş qitənin otuzdan çox ölkəsinin nümayəndələrini birləşdirən böyük təşkilata çevrildi. Bu klubun əsas məqsədi bütün insanlığı hədələyən qlobal böhranın - ərzaq və enerji təhlükəsizliyinin yaxınlaşdığı xəbərini yaymaqdan ibarət idi. Onlar qeyd edirdilər ki, ərzaq çatışmazlığı problemi yeni minillikdə içməli su və enerji ehtiyatlarını qabaqlayaraq birinci yerə çıxacağını deyirdilər.

Dünya ölkələrinin təcrübəsi göstərir ki, bir çox ölkələr dövlətin ciddi nəzarəti altında tam iqtisadi acıqlıq prinsipi yolu ilə getmişlər və bu bir neçə onilliklər davam etmişdir. Lakin sənayecə inkişaf etmiş ölkələr məsələn,Yaponiya, Fransa, ABŞ, İsveç bu gün də xarici kapital üçün qapalı olan istehsal sahələrini və sferalarını qanunvericiliklə müəyyən etmişlər. Xüsusilə, Yaponiyada müdafiə sahələrində, rabitə və digər sferalarda şirkətlərin səhmlərinin xarici investorlar tərəfindən alınmasına icazə verilmir və bu sahədə ciddi rejim müəyyənləşdirilmişdir [1].

Respublika külli miqdarda maddi nemətlər istehsal edə biləcək iqtisadi potensialının xeyli hissəsini Ermənistanın təcavüzü nəticəsində işğal edilmiş ərazilər hesabına itirmiş və Azərbaycan iqtisadiyyatı kəskin böhrana məruz qalmasına baxmayaraq dövlət müstəqilliyini əldə etdikdən sonra öz milli iqtisadiyyatını sosial iqtisadi sistemdə inkişaf etdirmək məsələsini qarşıya qoymuşdur. Azərbaycanın çox zəngin təbii sərvətləri, əvvəlki nəsillərin qurduğu güclü istehsal imkanları, təşəkkül tapmış elmi və zehni potensialı, qlobal iqtisadi problemlərin tələblərinə uyğun həlli yollarının çox möhkəm və etibarlı olması üçün zəmin yaradır. Azərbaycan öz üstünlüklərini gerçəkləşdirmək üçün beynəlxalq təşkilatlarla əməkdaşlıq edir. Torpaqlarımızın 30%-nin mənfur qonşular tərəfindən işğal edilməsi, onun hər cür vasitələrlə çirkləndirilməsi və minalardan, silah-sursatlardan təmizlənməsi üçün çoxlu maliyyə vəsaitləri tələb olunur.

2020-ci ilin sentyabrın 27-də Ali Baş Komandan İ.Əliyev cənablarının başçılığı ilə qüdrətli ordumuzun sayəsində 44 gün ərzində işğal olunan ərazilərimizin azad edilməsi və 2023-cü ilin 19 sentyabrında 23 saat içərisində torpaqlarımızın terrorçular və mənfur düşmənlərdən təmizlənməsi, dövlətimizin bütövlüyünün Tarixi Qələbəsi olmuşdur.

Dövlətimizin qarşısında duran ən vacib məsələ 30 il ərzində mənfur düşmənlərimizin cəmiyyətimizə, iqtisadiyyatımıza, mədəniyyətimizə vurduğu ziyanı aradan qaldırmaq, işğal olunmuş ərazilərdə iqtisadiyyatı yenidən qurmaq, məcburi köçkünlərin təhlükəsiz şəkildə öz doğma yurdlarına qayıtmasını və yaşayışını təmin etməkdir. Hazırda bu istiqamətdə güclü quruculuq işləri həyata keçirilir. İşğaldan azad ərazilərin bərpasına və yenidənqurulmasına 2021-ci ildə 2.2 mlrd. manat, 2022-ci ildə 4.3 mlrd. manat vəsait yönəldilmişdir. “Ağıllı” şəhər və kəndlərin tikintisinə başlanmış, bəzi yerlərdə həmvətənlərimizin öz doğma yurd – yuvalarına qayıtması üçün şərait yaradılmışdır. 2023- cü ildə bu ərazilərin yenidən qurulması və bərpası işlərinə 4.8 mlrd. manat vəsait yönəldilmişdir.

İşğaldan azad olan ərazilərdə sənayenin, aqrar sahənin və turizminin inkişafı üçün geniş imkanlar yaradılır və ciddi bərpa işləri həyata keçirilir. {3}

Dünyada baş verən maliyyə böhranı enerjidaşıyıcılarına ciddi təsir göstərsə də, hal-hazırda enerji təhlükəsizliyi milli təhlükəsizliyin mühüm tərkib hissəsi kimi formalaşmaqdadır. Hazırda Azərbaycanın enerji təhlükəsizliyinin təmin olunması istiqamətində Avropa ölkələri ilə aparılan iqtisadi əməkdaşlığın həyata keçirilməsi milli iqtisadi inkişaf modelinin mühüm tərəfi kimi özünü əks etdirir. Bununla əlaqədar olaraq qeyd etməliyik ki, ölkəmiz hal-hazırda təkcə region üçün deyil, Avropanın enerjisi təhlükəsizliyinin təmin edilməsində rolu durmadan artır.

Son dövrlərdə ölkənin elektrik enerjisinə tələbatının bərpa olunan enerji mənbələri ilə ödənilməsi perspektivləri tədqiqatçılar tərəfindən tətqiq olunur. Belə ki, ayrı – ayrı enerji mənbələri üzrə (günəş, külək, hidroenerji, geotermal, biotermal) mümkün olan enerji istehsalının qiyməti hesablanmışdır. Ölkədə yaranan istehsal və istehlak tullantılarından bioenerji üzrə miqdarı təqribən öyrənilmişdir. Biokütlə kimi istifadəsi mümkün olan meyvə, tərəvəz, dənli bitkilər, çay, tütün hazırlanması və emalında yaranmış tullantılardan istifadə etməklə elektrik enerjisi kimi istifadəsinin mümkünlüyü nəzərə çatdırılır. Respublikada hidroenerjidən istifadə məqsədi ilə müxtəlif çayların, kanalların, su anbarları üzərində elektrik stansiyalarının tikintisi mümkündür. İşğaldan azad edilmiş rayonlarda elektrik stansiyalarının tikilməsi ölkənin enerjiyə tələbatının ödənilməsində çox vacibdir.

Alternativ enerji mənbələrinin qurulması üçün Beynəlxalq təcrübəyə əsaslanaraq dövlət dəstəyi vacibdir. Belə ki, aşağı faizli kreditlərin verilməsi belə layihələrin həyata keçirilməsinə səbəb olar.

Azərbaycan dünyada külək enerjisi potensialı yüksək olan ölkələrdən biridir. Energetika Nazirliyinin qiymətləndirilməsinə görə, ölkəmizin iqtisadi cəhətdən əlverişli və texniki cəhətdən istifadəsi mümkün olan bərpa olunan enerji mənbələrinin potensialı 27000MVt, o cümlədən, külək enerjisi üzrə 3000 MVt, günəş enerjisi üzrə 23000MVt, bioenerji potensialı 380 MVt, dağ çaylarının potensialı 520 MVt həcmində qiymətləndirilir.

Yer səthinə düşən günəş radiasiyasının miqdan çox olan ərazilər Qarabağın cənub düzənlik hissəsi - Füzuli, Cəbrayıl, Zəngilan rayonlarıdır. Burada bir kvadrat metr üfüqi səthə düşən günəş radiasiyası ildə 1600-1700 kVt saat təşkil edir. Bu ərazilərin ümumi günəş enerjisi potensialı 3000-4000 MVt qiymətləndirilir. Kəlbəcər, Laçın, Qubadlı, Zəngilan, Cəbrayıl, Füzuli rayonlarının ərazisində yüksək günəş enerjisi potensialına malik ümumi

sahəsi 14427 ha olan 8 potensial ərazi olduğu hesab edilir. Mütəxəsislərin fikrincə, bu ərazilərdə günəş enerjisi istehsalı üçün ümumi potensial 7200 MVt-dan çox qiymətləndirilir.

Post-konflikt ərazilərin iqlim şəraitinin təhlili bu ərazilərin yaşıl enerji, kənd təsərrüfatı (heyvandarlıq və bitkiçilik), turizm, sağlamlıq və s. sahələrin inkişafı üçün əlverişli olduğunu göstərir. Bu ərazilərin böyük hissəsinin mülayim-isti, dağlıq, düzənlik və açlaq dağlıq olması qeyd olunan sahələrin müqayisəli üstünlüyə çevrilməsinə imkan yaradır. İşğaldan azad edilmiş ərazilərin təbii iqlim şəraiti alternativ enerji istehsalı -günəş külək və su - üçün də əhəmiyyətli imkanlar açır.

Respublikanın digər ərazilərində Quba, Zaqatala, Oğuz və Şəki rayonlarında kiçik çaylar üzərində SES-in qurulmasına şərait vardır.

Günəş enerjisindən istifadə məqsədi ilə Abşeronda panellərin qurulması daha məqsədəuyğundur. Quba – Xaçmaz yolunda külək kollektorlar qurulmuşdur.

Abşeronda il ərzində küləkli günlərin sayı 200-dən çoxdur.

Naxçıvanda küləkli zonalara Ordubad, Şahbuz, Şərur, Sədərək və Kəngərli rayonlardır. Bu zonalarda Külək Elektik Stansiyanın (KES) qurulması vacibdir. {4}

Düzgün təşkil olunan və müvəffəqiyyətlə həyata keçirilən xarici və daxili siyasət respublikamızın sosial-mədəni həyatında kök salmış bir çox qüsurları aradan qaldırmağa imkan vermişdir. Bu gün respublikamız iqtisadi inkişafın tempinə görə dünyada qabaqcıl yerlərdən birini tutur, ölkədə işsizlik tədricən və inamla aradan qaldırılır, korrupsiyaya, narkomaniyaya, hər cür əyintilərə qarşı ardıcıl və təsirli mübarizə aparılır.

2020-ci ildə ölkəmiz inkişaf etməkdə olan 40 ölkə arasında daha çox dövlət resursları hesabına iqtisadiyyatın dəstəklənməsinə görə birinci yerdə olmuşdur. Belə qənaətə gəlmək olar ki, ölkəmizin sənaye müəssisələrinin və qeyri sənaye müəssisələrinin rəqəmsal iqtisadiyyat modelinə daha intensiv inteqrasiya olunmasına və bu istiqamətdə müvafiq strategiyanın formalaşdırılmasına ehtiyac duyulur. Statistik məlumata əsasən 2022-ci ildə sənayedə istehsal olunan məhsulun 88,5%-i qeyri – dövlət sektorunun payına düşmüşdür. Rəqəmsal ekosistemin formalaşması, infrastrukturunun yaradılması iqtisadi artıma şərait yaradır.

Ölkəmiz Avropanın 10 dövlətinin enerji təhlükəsizliyinin təminatçısıdır, bu dövlətlərdən 7-si Avropa Şurasının üzvüdür, 2024-ci ilin noyabrında “İqlim dəyişikliyi” üzrə Bakıda keçiriləcək 40-dan çox ölkənin dövlət və hökumət adamlarının iştirak edəcəyi tədbirə ev sahibliyi edəcəkdir.

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Краткое содержание

В статье говорится о формировании «Новой экономики», основанной на научно-технической, инвестиционной и инновационной деятельности во всех сферах экономики в результате структурной политики, проводимой государством. В целях обеспечения стратегически важной энергетической безопасности вносятся предложения по использованию альтернативных источников энергии в стране.

Ключевые слова: Инновационная экономика, экология, энергетическая безопасность, альтернативные источники энергии, биотермическая, геотермальная, гидроэнергетика, солнечная и ветровая энергия.

Summary

The article talks about the formation of the "New Economy" based on scientific and technical, investment and innovation in all areas of the economy as a result of the structural policy introduced by the state. In order to ensure strategically important energy security, proposals are made to use alternative energy sources in the country.

Keywords: Innovative economy, ecology, energy security, alternative energy sources, biothermal, geothermal, hydropower, solar and wind energy.

Lachin's unique geography: shaping Azerbaijan's tourism landscape

Iş Yeri yoxdur
Murad Rizvanqaya Rizvan, Hicran Rzazadə Şakir
Western Caspian University

Abstract

For the small yet flourished land of Lachin, Azerbaijan, its unique geographical determinant is one of the corner stones in forming its tourism profile. In this paper, the natural conditions of Lachin land such as the type of terrain, mountain system and, especially weather condition related to developing tourism are studied in detail. Therefore, based on the findings from different sources, this paper is designed to create a full picture of Lachin´s tourism potential and its implications for sustainable tourism development in the region.

Keywords: Lachin, Natural landscapes, Cultural diversity, Geostrategic importance, Tourism development

Introduction

Lachin, a historically rich and geographically significant region in southeastern Azerbaijan, offers a unique blend of natural beauty, cultural heritage, and economic potential. Nestled between Armenia and Azerbaijan in the South Caucasus, Lachin has long been a critical route for trade, diplomacy, and cultural exchange. Its mountainous terrain, fertile valleys, and diverse ecosystems make it an attractive destination for eco-tourists, adventurers, and nature enthusiasts alike. In addition to its breathtaking landscapes, the region boasts a rich cultural mosaic, with traditional crafts, music, and cuisine reflecting the diverse ethnic communities that have inhabited Lachin for centuries. Recent efforts by the Azerbaijani government and NGOs aim to transform Lachin into a hub for sustainable tourism, preserving its natural and cultural wealth while fostering economic growth(Snell, 2023). As a promising destination for nature-based, cultural, and eco-tourism, Lachin stands ready to offer visitors an unforgettable experience in a land of beauty and history.

About Lachin

Lachin, a region located in the south-eastern direction of Azerbaijan, is rich with history and culture. A corridor lying in the heart of the South Caucasus and squeezed snugly between Azerbaijan and Armenia, Georgia has historically served an important role as a route for trade, cultural exchange, and political dialogue. Over the years, this has resulted in a unique blend of influences from different civilizations that have converged over time to shape Lachin into what it is today(Rahimov, 2021).

Lachin is the natural gem of Azerbaijan with its mountains,green valleys between them and majestically peaks of small partymountains. The natural beauty of the region offers scenic landscapes as well as a biologically chi diversity, which attracts eco-tourists and environmental enthusiasts. Its landscapes and weather in more harmonious times make it the perfect place to discharge from daily activity or experience some adrenaline (Ministry of Culture of Azerbaijan, 2023).

In cultural terms, Lachin is a potpourri of traditions, crafts and culinary skills. It is a melting pot of different ethnic societies which has made its culture rich and diverse. Craftsmen have been making everything by hand from elegant carpets to pottery that demonstrate the skills handed down through generations. Its exotic flavors and appetite savoring local food attracts the attention of every single gastronomical enthusiast who would love to experience that burst of freshness which comprises in its major portion a lot of Local Cuisine(Rahimov, 2021).

The historical value of Lachin refers to such historical landmarks as ancient churches and fortresses which once served as defensive structures telling rich history. The historical settlements and archaeological sites give a glimpse of residents who have made themselves at home over the past many centuries. Not just a place for tourism, it is an important part of the cultural heritage that

communities want to preserve(Süleymanova, 2011).

The strait which has now been recaptured by Azerbaijan was involved in the Nagorno-Karabakh conflict shedding further light on its geostrategic status. Lachin occupies a strategic position as a land corridor, which has made it the subject of much Sykes-Picot-type diplomatic jockeying. After the conflict, there has been an interest in turning this region into a hub of peace and tourism. Instead, the conclusion of hostilities moment should be used to revive Lachin and ICON tells how reconciliation and cultural interaction are a cornerstone.

Since recent years, the government of Azerbaijan and NGOs has tried to boost tourism in Lachin for economic revitalization and cultural preservation. The plans and strategies made by the government aims at improving the infrastructure such as upgrade of roads, construction of facilities for stay, visitor centers are being undertaken to develop tourism. They do not only serve as an attraction to bring in visitors but also involve local communities in tourism so that the regional economical gains are varied widely(Snell, 2023).

The idea was to make tourism in the municipality of Lachin a tool for promoting knowledge and collaboration between different ethnic, cultural groups by creating conditions for an informal communication visitors among themselves and with the local population. Hispaniola is a paradise and its preservation, of all the country’s treasures both natural as well as cultural that yearn to be longed for by tourists, reveals an economic vision beyond tourism.

With a rich history, diverse culture and beautiful landscapes, the future of Lachin shows great promise and has much to offer tourists looking for unique holiday experiences. By showcasing eco and socially friendly practices in the world of tourism and engaging local community, Lachin strive to be a shining land of peace, melting pot, history lover with an open arms for everyone(Rahimov, 2021).

Geography of Lachin

The relief of Lachin is mostly represented by powerful mountain ranges, fertile valleys and rivers. These different areas collaborate to give the Appalachian Trail its flavor, made not just up of sights yet likewise of environmental systems that include in the biodiversity of the area.

Topography

Lachin is a mountainous part of Azerbaijan and in the middle of it, we can see high mountains of Lesser Caucasus surrounding Lachin. They have steep mountain slopes, deep gorges, and rocky terrains which are suitable for hiking, climbing or eco-tourism. A number of walking trails cater to different levels, from leisurely strolls to the serious hiker, and take you through some of the best vistas and secret spots in the region detention centers.

There is an abundance of wildlife and flora in the valleys below, providing many opportunities for nature spotting and photography. Seasonal transitions simply add color and depth to the already beautiful landscapes of Lachin which turns it for visitors into a place with a unique appeal each season. Sightseers intrigued to experience Year-round Tourismscan visit both in spring for the lavish green foliage and again in fall when the shade of harvest time opens its gates(Süleymanova, 2011).

Climate

Lachin is characterized by a continental climate with extremely pronounced seasons, which strongly determines the ecology and tourist attractiveness of the region. Winters are cold and snowy, summers warm and sunny, which allows for a variety of outdoor activities depending on the time of year. The febrile conditions of this place make it one of nature's masterpieces and also define its tourism map in myriad ways.

Seasonal patterns

In winter, temperatures can drop significantly, often reaching below freezing, especially in the higher elevations of the Lesser Caucasus mountains. The snowfall transforms the region into a winter wonderland, attracting winter sports enthusiasts eager to engage in skiing, snowboarding, and snowshoeing. The rugged terrain offers numerous slopes and trails that cater to both beginners and experienced athletes. Local ski facilities are gradually being developed to accommodate the increasing number of winter tourists, positioning Lachin as a promising destination for winter sports(Rahimov, 2021).

As spring approaches, temperatures begin to rise, bringing with them vibrant blooms and lush greenery. This transitional period is a delight for nature enthusiasts, as the landscapes become alive with color. The mild weather makes spring an excellent time for hiking and exploring the region’s diverse ecosystems. Numerous trails traverse the valleys and mountains, providing opportunities for both leisurely walks and more challenging hikes.

Summer in Lachin is characterized by warm temperatures, typically ranging from mild to hot, making it ideal for outdoor activities such as camping, hiking, and nature exploration. This season attracts families and adventure seekers alike, with opportunities for activities like rock climbing and wildlife watching. The long daylight hours encourage exploration, allowing visitors to fully immerse themselves in the breathtaking natural

surroundings.

As autumn arrives, the region experiences a dramatic transformation. The landscape is painted in hues of red, orange, and yellow, creating picturesque views that attract photographers and nature lovers. The cooler temperatures make for comfortable hiking conditions, and the harvest season brings local produce to the forefront, enriching culinary tourism experiences.

Biodiversity and eco-tourism

The varied climate of Lachin supports a rich array of plant and animal life, making it an attractive destination for eco-tourism. Nature enthusiasts can find unique species that are endemic to the region, contributing to the biodiversity that thrives in the different habitats created by the climate. This variety not only attracts tourists interested in wildlife observation but also serves as a foundation for conservation efforts aimed at protecting the delicate ecosystems within Lachin(Rahimov, 2021).

Additionally, the climate influences local agricultural practices, allowing for the cultivation of a range of produce. Seasonal fruits and vegetables flourish in the warmer months, which can be showcased in local markets and culinary tourism initiatives. Visitors can enjoy farm-to-table dining experiences that highlight the region's fresh ingredients, further enriching their understanding of Lachin's cultural heritage (Macharia etc., 2010).

In conclusion, Lachin's continental climate, with its cold winters and warm summers, creates diverse opportunities for tourism and outdoor activities throughout the year. The seasonal changes enhance the region's natural beauty and support a rich biodiversity, making it an attractive destination for eco-tourism and adventure seekers. By leveraging its climate to promote sustainable tourism practices, Lachin can continue to thrive as a destination that celebrates its natural and cultural wealth.

Water resources

The water resources of Lachin, particularly the Lachin River and its tributaries, play a crucial role in enriching the region's landscape and sustaining its local ecosystem. These freshwater bodies are vital for agriculture, providing essential irrigation for crops and supporting livestock farming, which are critical components of the local economy. The rivers also offer recreational opportunities that enhance Lachin's appeal as a tourist destination, including fishing, rafting, and kayaking (Azerbaijan Tourism Board, 2022).

Major Rivers

Lachin River: The Lachin River itself is the most prominent waterway in the region. Originating in the mountains, it flows through lush valleys, carving out picturesque landscapes along its banks. The river's waters are not only important for irrigation but also create fertile alluvial plains that support a variety of crops, including grains and vegetables. The river's scenic banks attract visitors seeking peaceful spots for picnicking and relaxation (Azerbaijan Tourism Board, 2022).

Hakari River: Another significant waterway is the Hakari River, which runs parallel to the Lachin River. Known for its clear waters and natural beauty, the Hakari River is a popular spot for fishing enthusiasts. The river's diverse fish population, including trout and other freshwater species, provides opportunities for recreational fishing, drawing both local anglers and tourists.

Şelve River: The Şelve River, a smaller tributary, contributes to the region's ecological diversity. Its meandering course through the valleys creates ideal habitats for various aquatic and terrestrial species. The Şelve River is particularly popular among nature enthusiasts, offering excellent spots for birdwatching and nature photography. Its banks are adorned with native flora, providing a vibrant backdrop for outdoor activities(Musayev,2022).

Minkand River: The Minkand River, although less known, also plays a role in sustaining local agriculture and enhancing biodiversity. The river's waters support irrigation systems that are crucial for farming in the surrounding areas. Its winding path through the landscape provides serene settings for those looking to escape the hustle and bustle of urban life, making it an attractive destination for eco-tourism.

Recreational opportunities

The rivers of Lachin, including the Lachin, Hakari, Şelve, and Minkand, provide a myriad of recreational opportunities. Activities such as rafting and kayaking allow visitors to experience the region's natural beauty from a unique perspective. Guided tours can introduce tourists to the stunning landscapes along these waterways while promoting responsible enjoyment of the natural environment.

The riverside areas offer tranquil settings for relaxation, with designated picnic spots and scenic viewpoints enhancing the overall tourist experience. These locations are ideal for family outings, romantic getaways, or solo retreats, allowing visitors to immerse themselves in nature(Musayev,2022).

Eco-tourism initiatives

Integrating these water resources into eco-tourism initiatives can educate visitors about the importance of conservation and sustainable practices. Programs that emphasize the ecological

significance of these rivers, alongside workshops on responsible fishing and water management, can foster a deeper appreciation for the region’s natural resources. By promoting the responsible use of these waterways, Lachin can protect its ecosystems while cultivating a thriving tourism industry.

In summary, Lachin's diverse water resources—highlighted by the Lachin, Hakari, Şelve, and Minkand rivers—not only enhance the region's natural beauty but also provide numerous opportunities for tourism development. The interplay of these rivers with the landscape, coupled with their ecological importance, positions Lachin as a prime destination for nature lovers and adventure seekers alike, reinforcing its potential as a hub for sustainable tourism(Musayev,2022).

The role of geography in tourism

Lachin's unique geography significantly impacts its tourism potential. The natural landscape, climate, and biodiversity offer various opportunities for developing different tourism products.

Nature-based tourism

The mountainous terrain and diverse ecosystems create an ideal setting for nature-based tourism. Adventure seekers are drawn to the numerous hiking trails, rock climbing spots, and opportunities for outdoor activities. Popular trails, such as those leading to Mount Buzdukh and the picturesque valleys, cater to varying levels of experience, making the region accessible to a broad audience.

Eco-tourism initiatives can promote the preservation of natural habitats while providing educational experiences for visitors. Guided nature tours, wildlife observation, and conservation workshops can engage tourists while raising awareness about the importance of protecting Lachin’s unique environment (United Nations Development Programme, 2023).

Cultural and heritage tourism

Lachin's rich cultural heritage is deeply intertwined with its geography. The landscape has shaped local customs, traditions, and art forms, providing a unique experience for visitors. Historical sites, ancient churches, and traditional villages reflect the region's complex past and cultural richness.

Cultural festivals, local crafts, and traditional cuisine are significant attractions for tourists. Programs that promote local artisans and culinary experiences can enhance visitors' understanding of the region's cultural identity. Events such as folk music festivals and craft fairs can further attract tourists seeking authentic cultural experiences (Musayev,2022).

Sustainable tourism development

Given the delicate balance of Lachin’s ecosystems, sustainable tourism practices are crucial. Promoting eco-friendly initiatives and responsible tourism can attract visitors while minimizing environmental impacts. Sustainable practices, such as waste management, conservation education, and community engagement, are essential for preserving the region's natural beauty.

Collaborations with local communities can ensure that tourism development benefits residents economically while protecting their cultural heritage. By fostering a sense of stewardship among tourists, Lachin can develop a sustainable tourism model that respects both the environment and local traditions (World Travel & Tourism Council, 2021).

Findings

The analysis of Lachin’s geography reveals several key findings regarding its tourism potential:

High tourist interest

Surveys conducted among local and international tourists indicate a high level of interest in Lachin’s natural landscapes and cultural offerings. Visitors are particularly drawn to the region's outdoor activities and opportunities for cultural immersion. This interest suggests a strong potential for tourism development in both eco-tourism and cultural tourism sectors.

Economic opportunities

Tourism development in Lachin presents significant economic opportunities for local communities. Investments in infrastructure, such as roads, accommodations, and visitor centers, can lead to job creation and income generation. Developing a tourism strategy that aligns with local needs and resources can ensure that economic benefits are widespread and sustainable.

Challenges and considerations

While the potential for tourism is high, several challenges must be addressed. Environmental concerns, such as the impact of climate change on ecosystems, require careful planning and management. Additionally, balancing tourist influx with local needs is crucial to prevent overcrowding and environmental degradation.

Engaging local communities in tourism planning and decision-making processes can help mitigate these challenges and ensure that development aligns with the region’s long-term goals.

Discussion and conclusion

Lachin’s unique geography significantly

influences its tourism landscape, offering diverse opportunities for nature-based and cultural tourism. The region's natural beauty, combined with its rich cultural heritage, creates a compelling case for tourism development.

Recommendations

To maximize Lachin’s tourism potential, it is essential to focus on sustainable practices that protect its natural resources. Strategies may include:

- **Infrastructure Development**: Investing in sustainable infrastructure, such as eco-friendly accommodations and transportation options, can enhance visitor experiences while minimizing environmental impacts.
- **Community Engagement**: Involving local communities in tourism planning can ensure that development aligns with their needs and aspirations. Training programs for locals in hospitality and tourism management can enhance their capacity to engage with visitors.
- **Marketing and Promotion**: Developing a strong marketing strategy that highlights Lachin’s unique features can attract diverse visitor demographics, including eco-tourists, adventure seekers, and cultural enthusiasts.

Future Outlook

As the region continues to recover and develop post-conflict, it holds great promise as a tourist destination. By leveraging its geographical advantages, Lachin can establish itself as a model for sustainable tourism that respects the environment and uplifts local communities. As interest in responsible and eco-friendly travel continues to grow, Lachin is well-positioned to attract visitors seeking authentic experiences in a stunning natural setting.

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Xülasə

Kiçik, lakin çiçəklənən Azərbaycanın Laçın diyarı üçün onun unikal coğrafi determinantı onun turizm profilinin formalaşmasında təməl daşlardan biridir. Bu yazıda Laçın torpağının təbii şəraiti, relyefin növü, dağ sistemi və xüsusən də turizmin inkişafı ilə bağlı hava şəraiti ətraflı öyrənilmişdir. Buna görə də, müxtəlif mənbələrdən əldə edilən nəticələrə əsaslanaraq, bu məqalə Laçının turizm potensialı və onun regionda davamlı turizmin inkişafı üçün təsirləri haqqında tam təsəvvür yaratmaq üçün nəzərdə tutulmuşdur.

Açar sözlər: Laçın, Təbii landşaftlar, Mədəni müxtəliflik, Geostrateji əhəmiyyət, Turizmin inkişafı

Аннотация

Для небольшой, но процветающей земли Лачин, Азербайджан, ее уникальный географический фактор является одним из краеугольных камней в формировании ее туристического профиля. В этой статье подробно изучаются природные условия земли Лачин, такие как тип рельефа, горная система и, особенно, погодные условия, связанные с развитием туризма. Поэтому, основываясь на выводах из разных источников, эта статья призвана создать полную картину туристического потенциала Лачина и его последствий для устойчивого развития туризма в регионе.

Ключевые слова: Лачин, Природные ландшафты, Культурное разнообразие, Геостратегическое значение, Развитие туризма

Creative tourism model proposal: the example of Lahij village in Azerbaijan

Murad Rizvanqaya Rizvan, Hicran Rzazade Şakir

Abstarct

In the past, the role of creativity has been evaluated primarily in big cities. In recent years, more and more attention has been paid to the creative development of small cities and regions. It is emphasized in the literature that smaller destinations should not try to imitate big city creative development models such as attracting the creative class, but instead find their own creative methods by using their internal resources, capacity building and bottom-up creativity. This article aims to examine creativity in tourism and the potential role of smaller places in creative tourism development in the case of Lahıc Village in Azerbaijan. Lahıc village has been preferred due to its creative tourism features and tourism activities. In the study, a model proposal for Lahıc village was tried to be made on the basis of other models in the literature. Lahıc village is a very important destination in terms of creative tourism with its history, agriculture, hand knitting and carpet weaving.

Keywords: Creative Tourism, Creativity, Lahij Village, UNESCO.

Introduction

The need for destinations to differentiate themselves in a globalizing world has increased attention to the challenges faced by smaller communities. Destinations without large populations or significant resource clusters have a hard time competing effectively against the ‘world cities’ and other larger destinations that dominate the global economy. In this context, a number of recent analyses have begun to shed light on the potential of small cities and rural communities to leverage the knowledge, skills and creative resources to position themselves more effectively in global networks and to stimulate growth [12, 84-89]. Discussions about the role of small destinations have now found their place in the tourism field. At the same time, the growing challenges of a number of large urban centers in tourism, driven by the growth of mobility, new forms of accommodation and the endless desire of consumers, are also playing a role. Cities such as Barcelona, Venice, Lisbon and Amsterdam are now under threat from the specter of ‘overtourism’ and, as a result, increasing friction between residents and visitors [8, pp. 397-400]. Therefore, new opportunities are emerging for residents of many small communities, especially in rural areas, to counteract the situation. However, these small communities and destinations struggle to attract enough visitors to create economic and social opportunities.

Some sources in the literature have suggested that one of the development opportunities for small places is the development of creative resources and "creative tourism" [10, pp. 18-20]. Creative tourism experiences connect with creative lifestyles by combining different creative content elements. Visitors or consumers want to be actively involved in creative experiences and activities. Creative tourism consumers want to "go where the creativity is", directly participate in creation and co-creation activities. They increasingly play a co-creation role in the development of creative experiences, sharing knowledge and contributing skills to creative experiences. Creative tourism experiences are not only economically valuable but also can encourage the development of new ideas, products and services through the interactions, conversations and co-creation experiences that take place [1, p. 23]. The desire to gain co-creation experiences is the most important attractive element of small destinations that stand out with factors such as craft, culture, agriculture, etc. According to Florida, current tourism consists of the creative person, creative environment, creative process and creative product approaches developed by Rhodes in 1961. Therefore, Florida has argued that creative tourism destinations are preferred by the “creative class” and that this creative process is supported by creative products and creative environments [3, pp. 321-323].

Destinations should define characteristic creative content and activities that are related to the needs of visitors and local residents. Smaller destinations and villages in particular should develop creative networks that connect the creative resources of the place, creative producers and potential consumers. In this study, firstly, a literature review was

conducted to explain creative tourism. In line with the information obtained, it was predicted that Lahij village, which has left its mark on the craft history of Azerbaijan, could be a creative tourism destination. In line with the data obtained through face-to-face interviews and observations, suggestions were made on what should be done for Lahij village to become a creative tourism destination.

Creative Tourism

The strong relationships between tourism and creativity have been stimulated by the search for alternative models for tourism development and the expanding creative economy [4, pp. 178-181]. Incorporating creativity into tourism has become a common diversification strategy, particularly in the field of cultural tourism. Developing new events and festivals, renovating old buildings and adding animation to static attractions have become commonplace. Turok has argued that places are looking for quick ways to differentiate themselves in the global economy and are increasingly turning to the creative industries for help [13, pp. 15-17]. Iconic architecture and events are now one of the most important cultural catalysts used to renew urban identity, increase vitality and attract creative people and tourists. Such developments often depend on the mix of assets, knowledge and skills that form the basis of the creative economy, particularly in sectors such as architecture and design [2, pp. 38-40]. Creativity has also been widely applied to tourism facilities such as ‘design hotels’, iconic museums, art galleries and wineries [7, pp. 1230-1234]. In this context, a transition from traditional heritage-based cultural tourism models to new creative tourism models focusing on contemporary creativity, innovation and intangible content has been identified [12, 85-89].

Many aspects of creativity and contemporary culture have now been included in the World Tourism Organization's definition of cultural tourism; this definition includes art and architecture, historical and cultural heritage, culinary heritage, literature, music, creative industries and living cultures with lifestyles, value systems, beliefs and traditions. This situation shows that there is a significant integration between creative economy and cultural tourism. WTO research shows that 81% of National Tourism Administrations see contemporary culture and creativity such as film, performing arts, design, fashion, new media etc. as part of cultural tourism (UNWTO, 2018). The increasing value between tourism and creativity means that tourism benefits from the additional symbolic value created by creativity and the creative economy benefits from more tourist activities. This relationship is explained by Richards and Wilson [11, p. 259-264] have introduced the concept of creative spaces, creative shows and creative tourism. Creative spaces include a growing number of spatial clusters that bring together creative producers and craftspeople to provide creative environments for tourism consumption [6, pp. 24-29]. For example, in China, clusters such as the 798 Art District in Beijing attract millions of visitors annually, including many international tourists [5, pp. 152-153].

Creative tourism began as a concept associated with small-scale courses and workshops that showcased the creativity of the destination [10, pp. 17-19] and gradually evolved into a broader range of experiences encompassing informal learning situations and encounters [8, pp. 407-411]. This expansion led the Organization for Economic Co-operation and Development to define creative tourism as a combination of tourism and the creative economy in 2014, defining it as “an activity aimed at generating knowledge-based creative activities and gaining creative content and experiences by connecting producers, consumers and places by using technology, talent or skill to produce meaningful intangible cultural products.”

In the literature, however, it is seen that the concept of creative tourism dates back a little further. Pearce and Butler first mentioned creative tourism as a new type of tourism in their studies in 1993. However, no definition was made regarding the new concept that was put forward. However, thanks to the continuity of the studies in the 90s, the concept was further developed and defined. In the same years, the “Eurotex Project” was implemented in order to establish a connection between the local culture and tourists and to increase this commitment even more. This project helped to establish holistic connections between tourists and local people. These activities enabled creative tourism to be defined by Richard and Raymond in 2000 as "a form of tourism that offers tourists who want to develop their creative potential the opportunity to learn and develop the characteristics of the holiday destination they visit through active participation" [16, pp. 22-26].

Creative Placement and Creative Themes

Creativity, although not at a noticeable level, is actually very closely related to value creation in the contemporary economy. This situation is seen in the experiences of tourists to see and be a part of local creativity such as music tourism, film tourism, gastronomy tourism, design tourism and architectural tourism [4, pp. 176-180]. Placement is not a new concept, it probably emerged in Jane Jacobs' 1961 work. However, it has gained new meanings in recent years. Markusen and Gadwa Nicodemus (2010) defined creative placement as

"the strategic shaping of the physical and social character of a neighborhood, town, tribe, city or region around art and cultural activities". Creative placement enlivens public and private spaces, revitalizes structures and streetscapes, improves the viability of local business and public safety, and brings diverse people together to celebrate, inspire and be inspired.

The right strategy and basic components are required for creative placement to be done correctly. These components are; inspiration, choice, supporting structure, mobilizing people and resources, expressing creative meaning and using creativity to bring everything together [9, pp. 52-53]. Although this identified approach has been used in many places as a philanthropic way of abstraction, it has also been criticized for being simplistic and limited in focus (Wilbur, 2015).

The placemaking perspective on creative development has important implications for tourism. It outlines the use of creative placement as a design strategy through examples from a range of locations that demonstrate the effects of programs with different design strategies and governance methods [2, p. 37]. Placemaking is presented in order of increasing geographical scale, from rural areas to small towns, larger cities and finally to large settlements.

Creative placement design is often applied to more rural areas. In 2011, the Designated Areas for Sustainable Tourism Administration (DASA) launched creative tourism programs that provide experiences for tourists in rural villages [15]. Creative tourism programs have been strongly oriented toward community-based design principles, particularly involving communities in co-creating best design practices. Community capacity building, local pride and self-sufficiency, developing new ways to work across the tourism value chain, and empowering leaders to share the community-based tourism approach have been key objectives of creative tourism programs, helping to achieve community sustainability and quality of life goals and developing a qualitatively better, rather than larger, local economy [15].

Creative settlement has basic goals and objectives, and in line with these goals, a creative cities network has been organized by UNESCO. The goals have been determined as; creation of culture-based goods/services in the local framework and their successful production and logistics, encouraging creativity among vulnerable group members, especially women and youth, increasing participation in cultural life and maximizing utilization, and most importantly, incorporating creativity into development plans. Therefore, creative themes have been created in order to classify cities that share these goals and to be more efficient (Table 1.) [14].

Table 1. Distribution of Member Cities of the UNESCO Creative Cities Network

Themes	Member Cities	Number Member Cities of Türkiye and Azerbaijan
Crafts and Folk Arts	48	Kutahya, Sheki
Music	44	Kirsehir
Design	42	Istanbul, Baku
Literature	40	
Gastronomy	37	Afyonkarahisar, Gaziantep, Hatay
Cinema/Film	18	
Media Arts	17	
Total	246	8

Source: https://en.unesco.org/creative-cities/home [18].

As can be seen from the themes of the creative cities network, cities are grouped in 7 different areas. In addition, the combination of cultural and creative sectors within the scope of creative tourism has emerged. Thanks to this combination, it is understood which activities are cultural activities within the scope of creative tourism. Table 2 includes activities that can be carried out for creative tourism purposes that shape the themes of creative tourism or the combination of culture and creative sectors.

Table 2. Activities That Can Be Carried Out for Creative Tourism Purposes

Traditional Cultural Expression and Heritage	**Crafts, antiques and restorations**	**Jewelry, textile, ceramics, pill processing, antique and**

Arts		**architectural restoration, etc.**
	Traditional cuisine	
	Historical, cultural and natural heritage	Cooking, regional, cuisine, etc.
Cultural Industries	Visual arts	
	Performing arts	Museums, archives, libraries, monuments, natural parks, etc.
Traditional Cultural Expression and Heritage	Audio-visual	
	Music	Painting, sculpture, photography, literature, etc.
	Publishing	
	Design	Theater, dance, opera, circus, puppet, etc.
Arts	Creative services	

Source: Creative-based Strategies in Small and Medium-sized Cities: Guidelines for Local Authorities (2011:20)

As can be seen from Table 2, there are many areas for a destination to be evaluated within the scope of creative tourism. It is not important to have all of these activities. What is important is to be aware of the region, discover its features that are suitable for the themes and make the right placement.

Lahij and Tourism

Most tourists coming to Azerbaijan definitely try to come to Lahij. Lahij is located on the Great Silk Road international tourism route. For guests coming to the village, hotels, guesthouses and restaurants are offered. Information on cultural tourism, ecotourism, folk art, family tourism and services (guides and interpreters, accommodation, tours, horse riding, restaurants, transportation) can be obtained from the Tourism Information Center, which was established on the basis of a project of the tourism community in Lahij and operates on a self-financing basis. Every tourist who applies to the center is provided with high-quality free information services. The work of the President of the Republic of Azerbaijan, Mr. Ilham Aliyev, in recent years for the development of the regions and more effective use of tourism potential has also been reflected in the life of Lahij. Now access to Lahij has become easier, communication and electricity supply have been significantly improved. It is believed that such an old art house and an open-air museum as Lahij settlement will always be the center of attention and will attract everyone as a beautiful corner of the prosperous Azerbaijani lands (http://ismayilli-ih.gov.az/). [17].

In Lahij, hard rocks, steep valleys, stone monuments attract attention in the mountains. Forests are very rich, trees are broad-leaved. Various animals; foxes, bears, jackals, wolves, rabbits and various birds; partridges, eagles, nightingales, woodpeckers, etc. are often encountered. Lahij has a mild climate. Despite being located in the mountains, it ranks first in the country in terms of the number of sunny days. The settlement of Lahij is large and consists of two parts: Lahij and Aragit. The settlement is divided into 7 neighborhoods according to the tradition of ancient Eastern cities. There are 7 mosques, 7 springs, 7 madrasahs and 7 hundred houses here. Lahij is known to Azerbaijan and many countries of the world by its folk art traditions. In ancient times, 127 types of art were developed here, including coppersmithing, pottery, hat-making, blacksmithing, carving, pottery, carpet weaving, sock weaving, etc. The crafts of Lahij masters are still exhibited in many museums in Azerbaijan, Russia and even Western Europe. Today's artists of Lahij continue the art of their ancestors. Although some crafts have been forgotten, coppersmiths, carpet weavers, tanners, builders, sock weavers, sergeants and others are eager to present their crafts to customers. In addition, there is a museum in Lahij that exhibits the historical past and culture of these places. In general, the Lahij settlement attracts the attention of local and foreign tourists, who expect a rich impression of Lahij and at the same time a meaningful rest (www.pewat.blogspot.com). [19].

Lahıc Village and activities that can be used for creative tourism purposes

Lahij, one of the oldest settlements in Azerbaijan, is famous for its folk craftsmen, unique traditions and beautiful natural landscapes. It is located 180 km northwest of the capital of Azerbaijan, Baku, 71 km from the Mususlu railway station. It is generally in a mountainous area and has an altitude of 1200-1500 m. Lahij is located on the southeastern slopes of the Caucasus Mountains, at the foot of the Niyal Mountains and in the upper reaches of the Girdimanchay. Small rivers such as Lilo, Il, Cafala and Kishlar also flow through these lands. Since it is surrounded by mountains on all sides, all connections are made by mountain roads except for 2 highways. Lahij stretches for 2 km along the Girdimanchay. The main water source of Girdimanchay is the springs on the southern slopes of Babadag, which is 3100 m high. Mountains such

as Niyal, Gaban, Hart, Kuzudöşü, Ağbulag, Gümüşgala stand majestically around Lahić. Orientalist V. Minorski associated the toponym of Lahij with the name of the Layzan kingdom that existed in this region. According to popular assumptions, the etymology of the word Lahić is explained by such meanings as "Pilgrimage Way", "Stone Land", "Big Water Edge", "Non-Nomads", "Tribe, dialect", etc. (http://ismayilli-ih.gov.az/). [17].

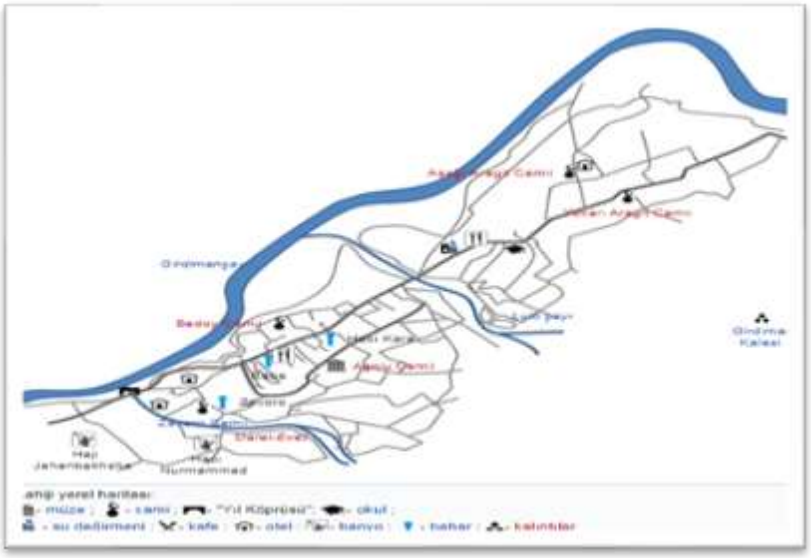

Figure 1. Local Map of Lahij
Source: https://az.wikipedia.org/wiki/Lahic_(İsmayıllı) [20].

Lahij has a history of over 2000 years. Stone knives, arrowheads and clay vessels found in its surroundings indicate that life here dates back to very ancient times. Lahij is very different from ordinary mountain villages with its unique architectural style and building quality. It is a small medieval town with well-developed sewage and water supply systems, skillfully and mosaically paved with white river stones. The uniqueness of architectural traditions, highly developed folk art and unique traditions allow Lahij to be called an open-air museum. Lahij Tariz-Cultural Reserve protects more than 90 historical monuments in the region. These historical monuments consist of 5 mosques, 3 baths, more than 60 houses, 1 bridge, dozens of tombstones, 1 water mill, various handicraft workshops and public resources. Most of the buildings were built from local building materials in the 12th-19th centuries. Lahij is divided into seven neighborhoods; Agali, Bedoyun, Pishta, Zavero, Aragit, Darelilo and Bagmija are separated and each neighborhood has its own mosque, fountain, bath, etc. (http://ismayilli-ih.gov.az/). [17].

Folk Craftsmen's Areas (Crafts): Craftsmen are intangible cultural heritage that can be protected and marketed, especially within the scope of cultural tourism. This cultural heritage has found a place between craft and art (Öter, 2010). Lahij craftsmanship draws on the ancient roots of the Azerbaijani people in decorative applied art. Lahij is known not only for its unique architecture and traditions, but also for its folk artists who create works that attract attention with their beauty and originality. It is known that there were about 127 areas of developed craftsmanship. In the middle of the 19th century, there were about 250 craftsmen's workshops and shops in Lahij. Today's Lahij craftsmen continue the traditions of folk art. It is true that most of these arts have been forgotten, but such arts as coppersmithing, carpet weaving, blacksmithing, masonry, carpentry, tanning, etc. are still alive. In order to protect their art, the Azerbaijani state has completely exempted these artists from taxes (http://ismayilli-ih.gov.az/).[17].

Creative City Model for Lahij Village

Lahij, a historic village in Azerbaijan with a rich heritage of craftsmanship and culture, is ideally positioned to become a creative tourism destination. Drawing from its unique assets in folk art, architecture, and natural beauty, a creative city model for Lahij can be designed to align with UNESCO’s Creative Cities Network and modern trends in creative tourism. This model will integrate various components of cultural heritage, creative industries, and community-based tourism principles. Below is a step-by-step framework for developing Lahij into a creative tourism destination:

Core Identity and Creative Themes

Lahij’s identity is deeply tied to its history of craftsmanship and natural beauty. To differentiate it

within the global tourism market, a strategic focus on creative themes is essential. Based on Lahij's existing assets, the following themes could be prioritized:

- **Crafts and Folk Arts**: Build on the village's reputation for copperwork, carpet weaving, blacksmithing, pottery, and leathercraft. These activities can form the cornerstone of Lahij's creative tourism strategy.
- **Architecture and Heritage**: Lahij's medieval town structure, with its unique sewage and water systems, cobblestone streets, and stone buildings, can be highlighted as a model of sustainable urban development.
- **Natural Landscapes and Ecotourism**: Lahij's location in the Caucasus Mountains, with its rich biodiversity and mild climate, offers opportunities for integrating ecotourism with creative experiences such as landscape painting, photography, and nature-inspired crafts.

2. Creative Tourism Infrastructure

To support creative tourism, Lahij must develop its physical and social infrastructure. The following actions are recommended:

- **Workshops and Learning Spaces**: Establish craft workshops and studios where visitors can directly engage with local artisans, learning traditional crafts and techniques. This could be supported by temporary or permanent courses in copperwork, carpet weaving, and pottery.
- **Cultural and Creative Hubs**: Create public spaces like creative hubs where artists, artisans, and tourists can come together to co-create. These hubs should act as community centers and tourist attractions, offering exhibitions, performances, and markets for selling local crafts.
- **Designated Creative Routes**: Develop designated walking tours or cultural routes that highlight the village's heritage sites, craft workshops, and natural beauty. These routes can focus on various creative themes, such as "Artisan Trail" or "Nature and Craft Walk."

3. Integration of Local Culture with Tourism

Lahij's tourism model should prioritize community participation and cultural sustainability. Integrating local culture and knowledge is essential to ensure the authenticity of the tourist experience.

- **Cultural Festivals and Events**: Organize annual or bi-annual events such as a "Lahij Crafts Festival," where artisans showcase their work and invite tourists to participate in workshops. Similarly, cultural events related to music, dance, and folk performances can attract visitors interested in immersive experiences.
- **Creative Residency Programs**: Establish artist-in-residence programs that invite international artists to collaborate with local craftsmen. This will create cross-cultural exchanges, promote innovation in traditional crafts, and elevate the village's profile internationally.
- **Agro-tourism and Culinary Experiences**: Incorporate culinary tourism by emphasizing local food traditions and agricultural practices. Tourists can be offered cooking classes, traditional meals, and experiences related to regional agriculture.

4. Technology and Marketing

Creative tourism today thrives on connectivity. Digital technologies should be leveraged to promote Lahij globally.

- **Digital Presence and Promotion**: Develop an online platform for Lahij as a creative destination. This platform should include virtual tours, stories of local artisans, and options for booking workshops and guided tours.
- **Social Media Campaigns**: Use social media to share stories, crafts, and experiences from Lahij, highlighting the creative process behind its unique products. Platforms like Instagram, YouTube, and Pinterest are ideal for showcasing visual content like crafts, landscapes, and cultural events.
- **Online Sales of Local Crafts**: Create an e-commerce platform where tourists and global consumers can purchase handmade crafts directly from Lahij artisans, extending the economic benefits of tourism beyond physical visits.

5. Sustainability and Community Involvement

Ensuring that tourism growth benefits the local community and environment is critical for long-term success. The creative city model for Lahij must focus on sustainable tourism development.

- **Community-Based Tourism Approach**: Engage local residents in tourism planning and operations. Train community members to become tour guides, cultural ambassadors, and craft instructors, ensuring that they benefit directly from tourism.
- **Sustainable Building and Conservation Practices**: Preserve the unique architectural

heritage of Lahij through conservation efforts. New infrastructure should align with traditional building styles and use sustainable materials.

- **Environmental Protection**: Protect Lahij's natural surroundings by promoting ecotourism activities that educate tourists on environmental conservation. Incorporating nature walks, birdwatching, and outdoor photography into the tourism model can balance creativity with conservation.

6. Creative Network Development

To further support Lahij's growth as a creative destination, the village should be connected to broader creative networks.

- **UNESCO Creative Cities Network**: Apply for Lahij to join the UNESCO Creative Cities Network under the theme of "Crafts and Folk Arts." This will provide the village with international recognition and help foster collaboration with other creative cities.
- **Regional Creative Collaborations**: Partner with nearby towns or cities that share similar cultural assets to develop joint tourism packages and events. This could involve partnerships with Sheki (known for its crafts) or Baku (design capital), enhancing the tourism appeal of the entire region.

7. Measurement and Feedback

Finally, it is important to measure the effectiveness of these strategies and adapt as necessary.

- **Visitor Surveys and Feedback**: Implement mechanisms for gathering feedback from tourists about their experiences. Use this data to improve services and offerings, ensuring that Lahij continues to meet the evolving desires of creative tourists.
- **Local Economic Impact**: Monitor the economic impact of creative tourism on the local community, ensuring that benefits are distributed fairly and contribute to the well-being of residents.

Conclusion

Lahij has the potential to emerge as a unique and successful creative city by leveraging its rich cultural heritage, artisanal crafts, and natural beauty. A creative tourism model centered on crafts, community engagement, and sustainability will help position Lahij as an attractive destination in the global market, appealing to tourists seeking authentic, hands-on, and immersive experiences. Through thoughtful integration of local culture, creative industries, and global networks, Lahij can thrive as a creative city while preserving its heritage for future generations.

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21.

Algorithm for determining priority directions of innovative development of agricultural production

Nargiz Shamil Khaligova [1][0009-0002-6753-953X]
[1] *Western Caspian University, Baku, Azerbaijan*
nara_xaliqova@mail.ru

Abstract

The article focuses on the study of the algorithm for determining the priority areas of innovative development of agricultural production. The article shows the priority direction and the main stages of developing the priorities of the development of agricultural science in the production of agricultural products, raw materials and food in the agricultural sector. Based on the conclusions made in this article, proposals for the development of innovative activities in agriculture were made.

Keywords: innovation, innovative activity, innovative management, innovation process, efficiency of innovation, agro-industrial complex, innovation policy, innovation system.

Introduction

Using the previously stated theoretical and methodological bases for determining priorities, it is necessary to dwell in detail on the practical stages of the implementation of this work. Compliance with the sequence (stages) is very important both for the objective assessment of the current state of socio-economic and scientific-technological development of the APC, and for the correct selection of priority directions, the implementation of which will ensure the fulfillment of the main threshold values specified in the Food Security Doctrine. Despite the fact that the procedure of choosing priority areas is usually carried out by scientists (specialists) who know the industry well, it is necessary to pay special attention to the observance of stages in this work.

At the same time, it should be noted that some conditionality of the selected stages, as despite the necessity of their observance, they, having their specific functional goals and tasks, are undoubtedly connected with each other, and especially the first four stages, which precede the formation of scientific directions and problems and the selection of the most priority ones in modern conditions. Let's dwell on the indicated stages in more detail.

At the first stage, the main requirements presented in modern conditions to a specific type of agricultural production, raw materials or foodstuffs, according to which the selection of priorities is carried out, are specified.

The main types of agricultural production, raw materials and food, for which it is expedient to develop priorities, include: grain (food and fodder), oil and fodder crops, potatoes, vegetables, fruits, sugar beets, flax, meat of cattle, milk, pork, meat, poultry, lamb, eggs. Priorities are also developed in the area of: mechanization and automation of agricultural production, storage and processing of plant and animal breeding products, production of food products and new types of production.

On the basis of the analysis of the actual situation and trends that have developed over the past years, the main quantitative parameters for the level of production and the structure of this agricultural production, raw materials and food for the period up to 2030 are determined. The basis of this forecast should be the principle of maximum satisfaction of the needs of the population and the country's industry in this agricultural raw material (product) and the real growth rates of its production, taking into account the state of the industry and the limited possibility of material, technical and financial resources. The level of production of this agricultural raw material (product) per capita in the analyzed and forecast periods is compared with similar indicators of developed countries.

When determining the trends in the increase in the production of agricultural products, raw materials and foodstuffs, as well as specific quantitative indicators, it is recommended to use: forecast and consumption norms of the main products.

A complex of socio-economic, technical and technological requirements for the production of agricultural production, raw materials, (product) is defined in comparison with the level of world achievements (product quality and its compliance with world standards, ensuring a high technical and

technological level of production, solving new tasks in the field of technology and etc.).

The economic requirements include, first of all, the level of production costs per unit of agricultural production, raw materials and food and the provision of paying demand for it, as well as compliance with the main trends of the market economy (the need for resources and energy conservation, the economy of materials and labor, increasing labor productivity, quality production and its competitiveness, organization of waste-free production, improvement of the level of ecological safety, etc.).

A set of social requirements is defined both for the agricultural raw material or the product itself (level of quality and optimal assortment, biological and food value, low sales price for the consumer), and for the level of organization and technology of its production (improvement of working conditions, elimination of heavy physical labor, safety and comfort of work, environmental protection, etc.)

A clear and scientifically based definition of the main quantitative and qualitative parameters for the production of this type of agricultural raw material or food will be of great importance for the subsequent stages of work on the selection of priority areas of scientific research.

At the second stage, taking into account the specified requirements for this type of agricultural production, raw material or food, as well as quantitative and qualitative parameters for its production, the main directions of scientific and technical development in this industry are determined. At the same time, it is necessary to take into account that the scientific and technical development of APC is not limited only to new means and subjects of work, improved with machines and more advanced technologies, but it covers the entire complex of productive forces, including the person himself, production relations, that is, first of all, the forms of organization and the mechanism of economy.

When determining the directions of scientific and technical development, it is necessary to take into account the real possibilities and the necessity of maximally accelerating the exit of domestic production from the crisis state and the transition to economic growth and increasing the efficiency of the functioning of all forms of farming in the countryside.

In general, the agro-industrial complex, as a result of the use of the achievements of agrarian science, must overcome the lag behind the developed countries of the world in labor productivity, resource consumption per unit of production, at least to the extent determined by differences in the natural and economic conditions of production, i.e. up to 2-2.5 times, instead of 5-10 times in the present time.

Taking into account the stated basic provisions and factors of scientific and technical development, applicable to each specific type of agricultural production, raw materials or food, the main (defining) directions are formulated, which will subsequently serve as a basis for setting tasks for agricultural science and forming scientific and technical programs and problem- thematic plans of scientific and scientific production.

At the third stage, an analysis of the state of scientific research in the field of production of this type of agricultural production, raw material or food is carried out. The purpose of this work is to identify the compliance of currently performed research in this field with the requirements and assess their fundamentality. The general criterion for the evaluation of scientific research is the scientific assurance of the growth of production of the specified type of production and food security of the country, the correspondence of scientific research and development to industry users and world achievements (analogues) in specific areas, the degree of influence on the socio-economic, technological and ecological level of development of agricultural production taking into account the effectiveness and scale of the implementation of the results of R&D, the creation of scientific tasks of fundamentally new solutions for improving and changing technologies and techniques taking into account the nearest and distant perspective. An important criterion for evaluating scientific research is not only the quantity, but also the quality of the conducted research. Such a criterion is the degree of correspondence of the topic of the study to the tasks set, the required methodological and methodical level, as well as the actually performed works, corresponding to the latest domestic and international achievements, the degree of influence of the finished works on the technical and economic level of the development of the industry.

The following system of indicators is used to evaluate scientific research.

1. Indicators of scientific level

1.1. The level of fundamentality of the topic:

- specific weight of theoretical and methodological studies (by the number of topics, cost of work);
- specific weight of applied studies (by the number of topics, by the cost of work);
- specific weight of technical, technological and organizational-economic work (by the number of topics, by the cost of work).

1.2. Quantity and specific weight of developments that received patent-licensing completion. Dynamics and stability tendencies of this indicator.

1.3. Quantity and specific weight of developments at the level of inventions.

1.4. The existence of works at the level of discoveries in the history of a scientific organization (with the characteristics of each work).

1.5. Availability of works marked with prestigious awards:

a) domestic (with characteristics);

b) worldly (with a named author's characteristic).

2. Indicators of scientific and organizational level

2.1. The number and specific weight of works performed jointly with foreign authors: scientific publications (by type), scientific developments.

2.2 Existence of joint ventures (SP) and according to the profile of the scientific organization (with characteristic results).

2.3. The presence of small enterprises (MP) and the profile of a scientific organization (with the characteristic efficiency of interaction).

2.4. The share of profile enterprises in the total number of market structures created by the scientific organization: a) by quantity; b) on the volume of activity (active balance, volume of turnover, etc.).

2.5. Specific weight in the topic of the scientific organization: a) planned topics (by number, by cost of work); b) contractual topics (by number, cost of work).

2.6. The specific weight in the scientific organization of the planned and contractual topics of the topics (work) in the composition of: a) federal scientific and technical programs (by the number and cost of work); b) regional scientific and technical programs (by number and cost of works).

2.7. The specific weight of those for which the scientific organization acts as the main coordinator: (by number and cost of works).

2.8. The specific weight of those, according to which the scientific organization acts as a co-executor: (by the number and cost of works).

3. Indicators of influence on the technological level industries

3.1. The specific weight of the developments implemented in the production: according to the number of works, according to the cost volume.

3.2. The scale of introduction of developments in the industry: according to the number of households using the development, according to the natural volume of production (area of sowing of a new variety, population of a new breeding line of animals, amount of modernized equipment, etc.).

3.3. The effect of the introduction of developments: on the natural volume of production (increase in yield and harvest, productivity and production, productivity and production), on changing the environmental friendliness of production, on resource saving (decreasing production).

3.4. Other indicators of scientific and technical influence on production, taking into account the specifics of the scientific organization, are developed by experts in addition.

In the process of analyzing the state of scientific research in a specific field, the number of scientific organizations conducting research in this direction, including those specialized in this direction, is revealed. Duplication is detected when conducting research. In conclusion, a general assessment of the state of scientific research and development on this type of agricultural production, raw materials or food is given, shortcomings are identified and ways to eliminate them in the future are outlined. At the fourth stage, the definition of the goals and tasks facing agrarian science in the field of production of a specific type of agricultural production, raw materials or food is carried out in relation to modern conditions, as part of the further determination of priority directions of innovative development of agricultural production.

Since the purpose of the functioning of agricultural science is further deepening and expansion of research, preparation of scientifically based developments (recommendations) on the effective organization and technology of agricultural production and its processing for the sustainable provision of the country's population with high-quality food products in the necessary volumes and assortment, and other raw resources, which are competitive on the domestic and foreign markets, as well as the country's food security.

The functioning of agrarian science has a multi-purpose character, therefore four main sub-goals are distinguished from the formed main goal: organizational-economic, technical-technological, social and organizational-methodical.

The organizational and economic sub-objectives include: the strategy of stabilization and economic growth of production, the forecast of market development (price parity, credit rates, paying demand, budget policy, inter-sectoral proportions, etc.), state regulation of the development of the agrarian sector of the economy, improvement of the economic mechanism the functioning of the APC (planning, pricing, taxation, crediting, state support for production and science, etc.), improvement of land relations taking into account the historically developed social and economic traditions in the Russian village, organizational and economic formation of market relations in the conditions of a multi-level economy, organization of interregional food relations and the development of a single agrarian market of the CIS countries, the development of cooperation and integration processes in the conditions of the market.

The technical and technological sub-goals

include: the creation and development of fundamentally new generations of power and working machines, equipped with microprocessors and electronic equipment for automating the operation of engines and mounted tools, which allow automatic control of the work of tractor units and combines, as well as regulation of sowing rates and planting, introduction of fertilizers and preparations, quality control of threshing, selection of optimal speed and accounting of cultivated or sown area; creation of complexes of technical means for highly mechanized and automated farms with resource-saving and waste-free technologies;

- breeding of new varieties of agricultural crops and breeds of animals, distinguished by improved quality characteristics and providing high genetic productivity;

- the development of new microelectronic technologies that allow to sharply increase the competitiveness and efficiency of agricultural machinery;

- preservation and improvement of soil fertility, development of biochemical technologies for obtaining ecologically safe food products for mass and medical and preventive purposes, taking into account modern medical and biological requirements;

- deepening the processing of raw materials based on the use of new technologies.

The social sub-objectives include: social transformations, including growth in the living and cultural and educational standards of the population engaged in agro-industrial production, increasing the prestige and motivation of work, creating decent living and working conditions for rural workers, growth in wages based on growth in productivity.

Scientific-methodical sub-objects include: definition a priori tetnyh directions of scientific research, stimulation of investment and innovation activity, improvement of scientific information support of science and agro-industrial production, formation of a single educational process in APC, providing a universal system of continuous education taking into account succession, multivariate and flexible forms of education.

Using the indicated fundamental formulations of the goals and sub-goals of the functioning of agricultural science within the limits of the previously developed main directions of scientific and technological development, the general goals and tasks of science are formulated in relation to a specific type of agricultural raw material or food, which would allow to ensure the implementation within the specified time (2030) quantitative and qualitative parameters for its production.

At the fifth stage, directions of scientific research (scientific and technical problems) are formulated within each direction of scientific and technological development and in accordance with the formulated tasks of science in the field of production of specific agricultural raw materials or food.

As a rule, such problems arise as a result of non-compliance with existing needs and existing opportunities for their provision. This concerns equipment, technologies, resources, economic methods of management, etc. Therefore, the solution of the problem is understood as concrete ways that allow to eliminate the identified contradictions between the existing (future) need and the possibilities of its provision, which provide for the application of new scientific-technical, organizational-economic or other solutions.

Thus, the process of selection of scientific and technical problems should be based on the analysis and identification of disproportions, and the solution of the problems will be a means of their elimination. The chosen ways of resolving contradictions must necessarily contain elements of scientific and technical novelty, as well as other factors that ensure the social and economic efficiency of the result.

If possible, the goal of solving a scientific and technical problem should be formulated using qualitative and quantitative indicators of the final result.

Forming a list of problems, you should consider:

- similar problems in other areas of science and technology in our country and abroad;

- scientific and technical problem in solving the problem in the researched branch and in other complexes (branches) of the national economy;

- factors necessary for solving this problem (scientific, material-technical, organizational, etc.).

In order to form a list of the most important scientific and technical problems, it is necessary to conduct an analysis of previously completed R&D projects in our country and abroad. Then, on the basis of the results of the analysis and the identified prospective needs of the production sphere in more advanced scientific and technical achievements, a list of problems is formed that require priority implementation and allow to achieve effective final results in the shortest possible time with minimal costs.

An integral part of the formation of a complex forecast of scientific and technological development is the analysis and identification of inter-branch problems. For this purpose, an assessment of the relationship between the main tasks, the most important directions of scientific and technological development and the scientific and technical problems of each considered industry with the tasks, directions and problems of other branches of the agricultural industry is carried out.

At the final sixth stage, the selection of priority areas of scientific research (scientific and technical problems) in the field of production of a specific agricultural raw material or product is made, which will allow formulating a list of the main priority areas of innovative development of agriculture:

In the field of economy, land relations and social development of the village: the development of modern theory and principles of development of the agricultural sector of the country, new and improvement of the existing organizational and economic mechanisms of its development in the conditions of globalization and integration processes in the world economy.

In the field of agriculture, land reclamation, water and forestry: development of new and improvement of existing systems of reproduction of soil fertility, prevention of all types of their degradation, adaptive landscape systems of new generation agriculture; creation and operation of irrigation and drainage systems, agroforestry and forestry complexes.

In the field of plant breeding, protection and biotechnology of plants: mobilization, preservation and study of the gene pool of plants; development of agricultural biotechnology in order to create new highly productive forms of cultivated plants, resistant to adverse abiotic and biotic factors of the environment; creation of new genotypes of plants with economically valuable traits and resistance to stress factors in order to construct highly productive agrophytocenoses and agroecosystems; development of systems of agroecological monitoring and phytosanitary forecasting based on improvement tr additional methods using information and computer technologies; development of biological and chemical means of plant protection.

In the field of zootechnics and veterinary medicine: mobilization, conservation and study of the gene pool of animals, birds, fish and insects; creation of new genotypes of animals, birds, fish and insects with economically valuable traits and resistance to stress factors; development of biological means of protection of animals, birds, fish and insects; ensuring security and countering biological terrorism.

In the field of mechanization, electrification and automation of agricultural production: energy supply and energy conservation, renewable sources of energy; intensification of machine technologies and new energy-intensive equipment for the production of basic food groups.

In the field of storage and processing of agricultural products: development of resource-saving technologies of deep processing of agricultural raw materials and production of food products.

An integral part of these priority directions are critical technologies in the field of the agro-industrial complex, which include:

Nano, bio, information, cognitive technologies in the following main directions: computer bioengineering, including modeling of the structure, dynamics and functions of biomolecules and nanomolecular structures, microbial and plant systems, the gene pool of plants and animals, production process control systems and environment-enhancing potential of agroecosystems and agricultural landscapes, systems of agroecological monitoring and phytosanitary forecasting, systems of veterinary life support, animal and human protection, safety and countermeasures against biological terrorism, genomic bioinformatics, including comparative genomics and proteomics, analysis of regulatory and metabolic connections.

Technologies aimed at creating new varieties of agricultural crops based on the use of 116 hereditary factors of resistance to phytopathogens and damaging environmental conditions; molecular-genetic markers and DNA-technologies that can be used both in the creation of new varieties and in the identification of GMR in samples of the collection of world plant resources; new nanotechnology of microsatellite analysis of genomes and creation of unique genetic markers for genotyping plants and animals; nanoelectronic devices for the diagnosis of plant and animal diseases; industrial strains of microorganism products that provide the production of enzyme preparations for obtaining bioethanol from lignin-cellulosic biomass; transgenic animals whose cells and organs are suitable for xenotransplantation and gene therapy; nanotechnologies for obtaining transgenic agricultural animals, and chickens – producers of biologically active substances; nanomaterial application technologies, providing 100% resource of repaired units of machines and restored parts.

Biomedical and veterinary technologies intended for the diagnosis, treatment and prevention of diseases of animals, birds, fish and insects based on the latest achievements of molecular biology and genetic engineering, means and methods of forecasting their occurrence and spread based on computer technologies and, thus, creating conditions, providing the possibility of preserving sustainable veterinary welfare, reducing morbidity and mortality of animals, creating a comprehensive security system and countering biological terrorism, obtaining livestock production of high biological and sanitary quality, environmental protection.

Genomic, proteomic and post-genomic technologies, intended for the production of new

medicines for animal husbandry based on modern biotechnological processes, basic designs and universal technological lines, providing the organization of the production of environmentally safe biological preparations of high quality; development of new, based on the data of molecular, biochemical, physiological and structural-functional studies, means, methods and methods of diagnosis, highly effective environmentally safe pharmacological means of increasing resistance, prevention and therapy of mass non-infectious diseases of high-yielding animals.

Cellular technologies in the following promising directions: effective cellular technologies that provide the production of regenerative plants of any type and variety of agricultural plants; development of cellular technologies for effective callus, morphogenesis and regeneration of any type and variety of agricultural plants from somatic and reproductive cells; transition to a system of bioreactors that provides a multiplication factor of 104, obtaining artificial "seeds" for double forms of fruit, rapid reproduction of berry and decorative crops.

Technologies of bioengineering aimed at the development of molecular genetics and biotechnology technical methods of creating new forms of agricultural crops; technologies for molecular genetic screening of the gene pool of world plant resources for use in selection; technologies of molecular constructions (vectors) for target transformation of plants and animals; biotechnology creation of microbial plant systems to increase productivity of agricultural crops and resistance to stress; technologies for obtaining transgenic plants and animals that produce biologically active substances for medicine and the food industry.

Technologies of energy-efficient production and transformation of energy on organic fuel aimed at creating systems of electric energy transmission based on resonant methods on single-wire overhead and cable lines; solar photovoltaic modules with efficiency of the world level (25%) and a service life of up to 40 years, collectors with stationary concentrators for the production of electrical energy; technologies and equipment for obtaining gaseous and liquid fuel from biomass, peat and vegetable waste by the method of fast pyrolysis; technologies and equipment for biogas production.

When forming (selection) priority areas of scientific development in the field of production of specific agricultural raw materials or food, it is necessary to consider the following main aspects: implementation of measures to increase the pace of technological renewal of production, introduction of new (improved) equipment and machines, use and introduction of new varieties of agricultural crops and animal breeds, improvement of seed breeding and breeding, development of biotechnological direction in agriculture, significant increase in productivity and productivity of animal husbandry, improvement of efficiency and organization of production, environmental protection and production of ecologically safe products, etc.

Conclusion

When choosing priorities, it is necessary to take into account the novelty and fundamentality of the idea and the correlation between the effectiveness of innovations and the latest achievements in the field of production of the specified agricultural raw material or product, taking into account the above aspects. As a result of the analytical work on identifying the priority directions of the development of agricultural science in the field of production of agricultural raw materials and food, an information card is filled out for each of them. The determination of the priority directions of the development of science and technology in the field of production of agricultural raw materials and food products is completed by filling out the summary list.

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Socio-economic effects of mountain tourism development

Nizami Khudiyev[1], Hasanov Agahuseyn[2]

[1]*Western Caspian University*

[2]*Azerbaijan Cooperation University*

nizami.xudiyev@wcu.edu.az, rh767986@gmail.com

Abstract

From the perspective of a modern sustainable and steady-growing economy, mountain tourism can be considered as a dynamically developing sector that accelerates the socio-economic, ecological, and cultural development of a country. This article mainly studies the goals and priorities that can be achieved through the coevolution of nature and society in the harmonious development of the ecosystem of a country or region. The research focuses on the existing economic and financial impacts on the sustainability of today's mountain tourism and its interaction with nature, rural communities, and the economy as a whole. The results aim to improve methodological approaches to the study of the mountain tourism services market, increase the competitiveness of mountain tourism infrastructure, and attract more investment to this business sector.

Keywords: Mountain tourism, economic impacts of mountain tourism services, sustainable tourism.

The country’s high recreational potential creates opportunities for the effective development of tourism, including mountain tourism, which contributes to regional progress. Azerbaijan, with its rich and diverse mountain range, has taken a fairly high position in terms of the quality and quantity of the climatic and balneological recreation resource potential of the Eurasian continent. In some regions of the country, there are foothills, peaks and canyons reaching 3000-4000 meters in height, surrounded by abundant ultraviolet radiation and sunlight. The Shahdagh, Talysh Mountains, and Lesser Caucasus Mountains not only host traditional forms of tourism (mountain skiing, mountaineering), but also support the development of trendy new tourism types like mountain biking, kitesurfing, paragliding, rafting, and canyoning.

The presence of favorable natural and climatic conditions for tourism in the high mountain and foothill regions, combined with diverse logistics, social investment, and funding conditions, plays a significant role. These factors create a feedback effect: on one hand, they stimulate the development of mountain tourism, and on the other hand, they lead to improvements in the infrastructure itself. This, in turn, stimulates the progress of small and medium-sized businesses, micro-businesses, and households in mountainous regions, making tourism a source of income and economic opportunities for remote rural communities.

It should be noted that after gaining independence, significant successes have been achieved as a result of special state care for the development of tourism in our country. Azerbaijan has become a leading state in the Lesser Caucasus region.

Conclusion

From the point of view of the multi-faceted economy with modern sustainable development characteristics, tourism is a sector with huge dynamic development potential and acts as a segment that serves to accelerate the socio-economic, ecological and cultural development of the country.

Tourism, including mountain tourism, is a key component and guarantee for ensuring the economic sustainability and social welfare of a country or region. Modern mountain tourism is not only a business industry but also one of the fundamental components of the social, ecological, cultural, ethnographic, and economic sustainability of regions and rural communities. So to put it briefly, tourism (including mountain tourism) can contribute to the strengthening of the economy, the socio-cultural modernization of destinations and, in general, the progress of society. “The main directions of tourism development in our country are determined by the

structure of Azerbaijan's economic potential, the key directions of its integration into economic circulation, as well as the social and demographic characteristics of consumer segments [2,5.10]”.

As a result, as the world experience confirms, the importance of tourism in the formation of the gross domestic product, its influence on the activation of the foreign trade balance, and the revitalization of transport, communication, construction, agriculture and other leading economic sectors are very important. [5.5.7]

Advanced scientific researches of the 21st century show that the development of modern mountain tourism should be aimed at the harmonious development of both nature and society in a form interconnected with the economy of each region. This can be achieved through improving methodological approaches to the application of the tourism services market, strengthening the tourism development infrastructure, increasing investments in this sector of business, raising the capitalization level of mixed partnership sectors, creating new jobs, and ultimately addressing a series of socio-economic problems. Finally, it can be accomplished through the coevolution of nature and society [4.s.143]

Undoubtedly, mountain tourism is built upon traditional tourism perspectives. In this regard, modern tourism, by ensuring the sustainable development of the country and its region, has the potential to have a multiplicative impact on improving the quality of life of the area's residents. Conceptually, the priorities and goals of ensuring the system of socio-economic interests on the territory, environment and future development of mountain tourism are fundamentally clarified. In order to clarify the role, tasks and functions of mountain tourism in our country, it is necessary to compare it with traditional tourism. This can be seen very clearly in the table below.

Table 1.Main Priorities of Mountain Tourism

Different Aspects	Traditional Tourism Development	Mountain Tourism Development
Characteristics	Rapid	Gradual development
	Elasticity of short-term demands	Elasticity of long-term demands
	Unrestricted development	Development with restrictions
	External management of processes	Proseslərin daxildən yeni yerli icmalar tərəfindən idarə edilməsi
	Harsh external intervention	Soft external intervention
Strategies	Individual planning of sectors	Complex and integrated planning
	Meeting consumer demands	Meeting consumer needs while protecting the interests of future generations

Research shows that mountain tourism requires specific and specialized infrastructure. Some types of mountain tourism can be massive and highly profitable. However, let's note that the Shahdag and Tufandag tourism complexes in our country have made significant progress in terms of quantity and quality parameters in recent times. This, in turn, affect the positive dynamics of socio-economic indicators in those regions.

In terms of perspective development, 3 variants of mountain tourism management in our country can be indicated: state, market, and mutual management.

In the first option, state structures should perform the following functions;

- provision of effective management of the use of natural and historical-cultural resources;
- reduction of anthropogenic pressure on the ecosystem;
- protection of the quality of hydrological resources;
- organization of ecological education;
- ensuring the safety of tourists;
- guaranteeing and monitoring the high level of service.

In the second version of management, it involves softening of state intervention and application of market principles. Here, the main principle priorities are the following;

- Stimulation of entrepreneurial activity
- Economic stimulation of the application of ecological programs

The third option includes both state and commercial management in a mutual way.

The main goal is to ensure the public-private sector partnership in the development of the regions and achieve effective development of mountain tourism on this basis.From the point of view of practical analysis, there is great potential for the formation and eventual systematic structuring of mountain tourism in our country. The development of this sector must first of all be realized in a complex manner based on the projects to be implemented by the state.

Tourism companies should focus on a long-term phased development strategy from short-term profit. Every stakeholder on the social, economic and legal levels should be involved in the activity process. Both internal and external stakeholders of the tourism segment should transform tourist destination complexes into correlation-functional interaction

systems with their activities. Thus, in the 21st century, as in other fields, in addition to quantitative indicators, qualitative indicators also play an important role in tourism. In this regard, the effective corporate management policy of tourism services in mountainous areas and the appropriate financing mechanism should be long-term, and investments in socio-economic material and financial and natural and moral resources should be regularly monitored and evaluated.

Table 2.In this regard, the SWOT analysis of mountain tourism is also of some interest.

Strengths	Weaknesses	Opportunities	Dangers
-Implementation of extreme types of tourism -Opportunities for the development of ethno-tourism -Favorable ecological conditions -Availability of balneological resources -Numerous accommodation opportunities -Possibilities for hosting sports events	- High capital intensity - Low demand elasticity - Lack of complete logistics -Insufficient opportunities for raising awareness about mountain tourism	- Digital information opportunities - Digital services	-Medical -climatic risks -Proximity to other mountain tourism facilities of the Caucasus -Remaining instability in the Caucasus region..

In the modern era, the socio-economic efficiency of mountain tourism and its formation mechanism has a synergistic effect. In other words, the efficiency of the tourism sector depends on meeting the demand for a wide variety of products and services that arise from the interaction between complex partner industries, infrastructure segments, agriculture, and ecology. From a practical perspective, at the macro level, tourism is one of the sources of GDP formation in every country. For instance, tourism revenues account for 7-8% of the GDP in developed countries, and as a result, the efficiency of this sector is measured by specific socio-economic benefits: new job creation, the expansion of entrepreneurial structures, an increase in foreign currency inflows into the country, and sustained growth rates in local industries, agriculture, financial-credit, and logistics markets, etc. On a global scale, tourism has the potential to directly or indirectly impact the economy of every country. This impact can be clearly seen in the following table from various countries.

Table 3.Tourism and travel indicators for leading countries according to the WTO report as of January 1, 2020.

Country	The number of special tourists coming to the country (million people)		Country	Tourism and Travel İncomes (billion dollars)	
	01.01.2015	01.01.2020		01.01.2014	01.01.2020
France	77.1	83.7	France	73.5	81.7
USA	59.8	74.8	USA	52.5	65.2
Spain	52.7	83.5	Spain	46.6	55.4
China	55.7	55.6	China	45.8	56.9
Italy	43.6	64.6	Italy	31.3	34.5
Turkey	41.5	51.8	Turkey	38.8	45.5
Germany	26.9	30.6	Germany	32.4	45.3

As the data shows, prior to the pandemic, France, the USA, and Spain maintained their leading positions in terms of global tourism revenue. In the year just before the pandemic, France earned 55.4 billion dollars, while the USA earned 81.7 billion dollars. Among the top five countries, China, Spain, and the United Kingdom are also noteworthy. As for Azerbaijan, it is not possible to completely separate mountain tourism from the overall tourism sector. It must be acknowledged that there is still a need for some order in the organization of mountain tourism, even from the perspective of scientific definitions.

For example, terms like mountain ski resort, mountain ski center, alpinist base, etc., still require

clear and precise explanation from both economic and legal perspectives. There is a significant need for a unified algorithm and management mechanism that adheres to standardized regulations in this area. On the other hand, mountain tourism can further strengthen alongside the overall development of the tourism industry. In general, the dynamic growth of the national economy, the achieved economic, social, and financial stability are crucial factors for the tourism sector in our country. This is reflected not only in the dynamics of macroeconomic indicators but also in the direct impact on the incomes of households in the regions and the overall increase in regional population incomes and budgets. The sustainable financing and stable development of the tourism sector in our country are primarily determined by Azerbaijan's potential economic, social, and natural resources, as well as the region's prospects. Based on the analysis we have conducted, it is concluded that the role of tourism in Azerbaijan, its specific weight, and the new values created in this sector more precisely determine its significant role overall.

Table 4.The main financial indicators of the tourism sector in Azerbaijan

	2013	2016	2019	2021
1. Total number of employees(person)	40887	43477	48972	53717
2. The actual million manats of the added value created	2080.2	2746.1	2704.9	2062.6
3. The percentage of added value created in tourism in the country's GDP	3.6	4.3	4.5	2.2
4. The amount of investment in the tourism sector mln.man	137.1	133.0	133.7	242.4

Source: The table was analyzed by the author based on the data of the SSC.

As can be seen from the table data, the number of employees in the tourism sector in our country increased from 40,897 people in 2013 to 53,717 people in 2021, while the volume of value added created remained almost unchanged during this period (2,080.2 million manats in 2013, and 2,062.6 million manats in 2021). The volume of investments in the tourism sector in our country was 137.1 million manats in 2013 and 242.4 million manats in 2021. Finally, the key macroeconomic indicator, the share of value added in GDP, which is the penetration indicator of the tourism sector in the overall economy, was 2.2% in 2021. Considering that in advanced countries this indicator stands at 7-9%, we can conclude that there is still great potential in this area in our country. Let’s briefly outline these opportunities:

1. Improving tourism infrastructure and developing the tourism industry to enhance the country's competitiveness in international and regional markets.
2. Creating conditions for the development of villages and local communities in the context of mountain tourism development, contributing to the improvement of the territorial structure of the economy.
3. Strengthening the corporate management sector of tourism, including mountain tourism enterprises, and increasing the efficiency of their financing mechanisms. Skillfully utilizing financial tools such as budget funds, bank loans, insurance payments, taxation mechanisms, securities, foreign and domestic borrowing, and other financial instruments to promote the tourism sector.
4. Defining the legal status of the country's tourism and recreation zones, including mountain tourism zones and tourism logistics in the regions.
5. Ensuring the implementation of advanced international methods and standards for tourism services.
6. Strengthening information support for the development of investment sources in mountain tourism.
7. Financing the reconstruction or construction of social and transport infrastructure facilities in the country's priority mountainous regions.
8. Providing support to local government authorities for the development of tourism in their territories.

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Impact of global climate change on mountain tourism in Azerbaijan

Pervin Shukurlu[1] Yegana Ahmadova[2]

Western Caspian University, Istiqlaliyyat Street, 31, Baku, AZ0001,
[1]Azerbaijan, pervin.shukurlu@wcu.edu.az, 0000-0001-6251-3336
[2]Azerbaijan State Pedagogical University, Uzeyir Hajibeyli Street, 68, Baku, AZ1122 Azerbaijan,
ahmedova.y99@gmail.com, *0000-0002-5570-7041.*

Abstract

The Climate change is one of the global problems that concern the world. Since the period of industrialization starting from the 18th century, especially after the middle of the 20th century, there have been very large negative effects on the Earth's climate system, along with other atmospheric emissions, there has been a rapid increase in greenhouse gases on a global scale. Azerbaijan has not been left out of the influence of global climate changes. Average annual temperatures in Azerbaijan have increased by 0.4-1.3°C in the last 100 years. Against the background of climate changes, Azerbaijan is exposed to the effects of floods, avalanches, storms, hurricanes, strong winds, heat, droughts, melting of glaciers, salinization, soil degradation, desertification, reduction of precipitation, water resources and other extreme climate events.

The tourism sector of Azerbaijan has also been affected by the climate change problem. The most basic example of this is Azerbaijan's mountain tourism. Azerbaijan's mountain tourism has been going through development stages in recent years. In particular, Shahdag Winter-Summer Tourism Complex, Tufandag Ski Complex, Agbulag Recreation Center in Nakhchivan and others have created the foundation for the development of mountain tourism in Azerbaijan. However, climate change does not bypass Azerbaijan's mountain tourism. Climate change has a significant impact on changes in snowfall patterns, mountain ecosystems, changes in snowmelt times, the economy, and a number of other processes. The shortening of the winter season and the reduction of snow cover due to climate change may reduce the interest in winter sports in the mountains.

Key words: climate, climate change, temperature, tourism, mountain tourism, economy.

Introduction

Climate change, particularly global warming, is arguably one of the biggest and most pressing environmental challenges facing the world. The rate of global warming has not been constant over the past century - if we measure warming by the change in surface temperatures. [1, p.23] Thus, climate change is a long-term change in the average temperature and weather conditions on Earth. Climate changes have a great impact on the development line of various countries in our world, the evolution of the global economy, as well as people's lifestyle in general. So, at the root of this problem lies the Earth's potential to absorb carbon dioxide and other heat-producing gases. As we know, carbon dioxide enters the atmosphere from a number of different sources. Examples of these are agriculture, changes in landscape use, industries, waste products, energy and other sources. Additionally, since the middle of the 20th century, the amount of CO2 and other greenhouse gases in the atmosphere continues to increase rapidly due to the development of industries, as well as the burning of organic matter for energy, causing more solar heat to be retained in the atmosphere.

Climate changes are a real threat to human life and development. This problem affects all regions, sectors and society of the world. In general, the problem of climate change cannot be considered a local or regional problem, because it is a global problem for the world.

Climate change has a number of main effects and manifests itself as:

- Global temperature increase
- Sea level rise
- Drought and lack of water
- Acceleration and intensification of natural disasters
- Change of ecosystems and reduction of biological diversity
- Threats to agriculture and food security

Global climate change is causing large-scale impacts, from ecosystems to human society. Climate ultimately influences human culture-from articles of

clothing we wear and the recreational activities we engage in to more pressing issues such as our food, water and energy demands. [2, p.13]

Below are the most important aspects of these effects:

1. Changing Climate Conditions
- Temperature Rise: Rising global average temperatures are causing more frequent heat waves.
- Change in Rainfall Regime: In some regions, an increase in rainfall is observed, while in others, drought is observed.

2. Sea Level Rise
- Geographical Changes: Sea levels are rising as a result of melting glaciers and polar ice, which threatens coastal areas.
- Coastal Erosion: Rising sea levels cause shoreline erosion and habitat loss.

3. Increase in Natural Disasters
- Storms and Hurricanes: Climate change is leading to stronger storms and hurricanes.
- Floods and Droughts: Changes in the water cycle lead to an increase in flood events and at the same time water shortages.

4. Impact on Ecosystems
- Loss of Biodiversity: Climate change is altering the habitats of many species and increasing their risk of extinction.
- Damage to Ecosystem Services: The functions of natural systems (water treatment, soil fertility) are damaged.

5. Impact on Agriculture
- Productivity Reduction: Climate change negatively affects agricultural production, which threatens food security.
- Disease Spread: Climate change increases the risk of plant and animal diseases spreading.

6. Impact on Human Health
- Increase in Chronic Diseases: Heat waves can lead to an increase in cardiovascular disease and other health problems.
- Water and Food Security: Water shortages and reduced food production lead to hunger and livestock health.

These effects of global climate change leave deep traces on people's daily lives and necessitate the development of long-term strategies.

2. Discussion. If the global average temperature increases by more than 2°C, the risk of climate change is likely to increase. As mentioned above, it is necessary to prevent the release of greenhouse gases into the atmosphere. Global carbon emissions increased by 3% to a record 34 billion tons in 2011, with the G20 countries accounting for nearly 78% (Figure 1). [3, p.314]

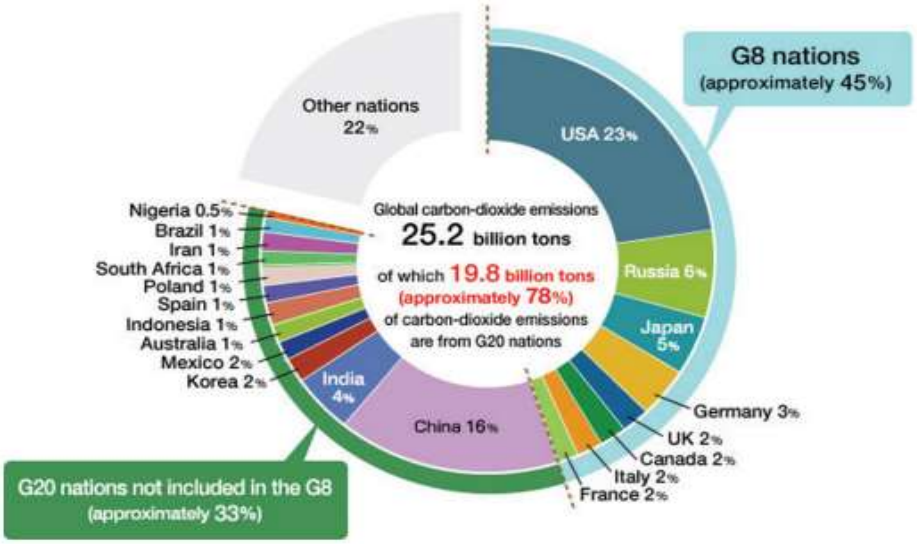

Figure 1. Global carbon emissions per G-20 countries

Main discussion

Climate change has a number of effects on the tourism sector as well as other areas. Mountain tourism is mainly affected by these effects. In recent years, mountain tourism in Azerbaijan has entered a significant stage of development. This area is especially known for the Shahdag Winter-Summer Tourism Complex. The complex began to be developed in 2006 and was put into operation in 2009. Shahdag is located at an altitude of 1300-2300 meters above sea level and covers an area of 2058 hectares, which makes it an ideal destination for mountain tourism.

Mountain tourism opportunities in Azerbaijan:

- Winter Sports: Mountain-ski tourism is of great interest in Azerbaijan. Shahdag complex is a center visited by thousands of tourists in winter months.

- Summer Sports: Activities such as mountain biking and skateboarding are also popular during the summer. These routes are also provided with

security measures.

- Extreme Sports: Mountaineering, speleotourism and other extreme sports are also developing in the mountainous regions of the country.
- In Azerbaijan, this inter-territorial difference is characterized as follows:
- Nakhchivan: Winter tourism and extreme sports, especially paragliding, are developing here. The interest of foreign climbers has increased in Nakhchivan.
- Caucasus Mountains: There are summer and winter routes in the Greater Caucasus range. Regular competitions between cyclists and skateboarders are organized here.

As future prospects, extensive construction works are being carried out for the development of mountain tourism in the liberated areas, especially in Shusha, Lachin and Kalbajar. There are cultural, natural and health tourism opportunities in these regions. Experts emphasize that these regions have great potential for mountain tourism.

Thus, the development of mountain tourism in Azerbaijan has a positive effect on both the local economy and international tourism. For the expansion of this area, it is important to improve the infrastructure and introduce new services.

In the Guba-Khachmaz region, there are also ample opportunities for organizing sports tourist routes - mountain, pedestrian, water, auto, motorcycle and bicycle tours. Currently, tourism companies and organizations organize many mountain and pedestrian routes in the region. The tours offered by the "Suvar" mountain-recreation base are also related to mountain routes. There are prospects for other sports tours in the region. Tourists can be attracted to this region by organizing rafting in Gudyalchay, Gusarchay, Valvalechay, Shabranchay and other mountain rivers. These tours are designed for 10-12 people and travel on inflatable rubber rafts and boats. One of the important mountain tours in the region is the tour to the peak of Heydar Aliyev. This peak is located at an altitude of 3751 m above sea level in the Kyzylgaya mountain massif in the Mykhtoken range of the Main Caucasus range. The second route is shorter and starts from Khinalig village. The mountain road to the Khinalig mountain pass is an hour to the turn of the natural center of the fire. [4, p.199-200, 12]

The Shahdag tourist center located in this region stands out for its winter skiing area in the height range of 1435 - 2552 m, 28 slopes located in an area of 30 km, and 17 lifts for quick and easy access to the slopes. This tourist center is home to the most advanced winter mountain tourism of our republic, and the winter complex has a passenger capacity of 25,000 skiers per hour (Figure 2).

Figure 2. The main indicators of the Shahdag tourist center

The importance of climate for recreation and resort is undeniable. [5, p.416, 10]

Global climate change has serious implications for mountain tourism. These impacts include changes in weather patterns caused by climate change, changes in ecosystems and the weakening of tourism economies.

1. Snowfall and Climate Change

Climate change is altering snowfall patterns. The increase in temperature leads to less snow in some regions, which has harmful consequences for winter tourism. For example, warmer air holds more

moisture, which leads to more rain instead of snow. At the same time, some regions may see more intense snowfall events, which lead to stronger snowstorms in a short period of time.

2. Snow Melting Time and Duration

Climate change is changing the timing of snowmelt. Warmer temperatures cause snow to melt earlier and faster, which affects water resources and ecosystems. The decrease in the duration of the snow cover also reduces the income of tourism economies; because as the winter season shortens, the number of tourists decreases.

3. Effects on Mountain Ecosystems

Warming causes an increase in the altitude at which snow occurs. This negatively affects mountain ecosystems and reduces the availability of water resources downstream. Melting of glaciers in mountainous areas causes sea level rise, which affects coastal areas.

4. Economic Effects

The economy of mountain tourism is seriously affected by changes caused by climate change. Especially in regions engaged in winter sports, job losses and economic problems arise. It is important to develop adaptation strategies for the tourism sector; this includes investing in sustainable practices and diversifying tourism offerings. The purpose is to ensure a better economic climate, so new projects could function more efficiently, thus improving returns. [6, p.280]

5. Forest Fire Risk

Reduced snow cover increases the risk of wildfires in warmer months. This poses additional threats to mountain tourism.

The regional specialization of tourism depends greatly on the seasonal factor. The seasonal factor also takes into account changes in population employment. [7, p.196]

3. Results and Discussions. From the regional effects of global climate changes, the area of the Shahdag glacier, which is one of the high mountain glaciers of Azerbaijan, has decreased by 0.17 km², and the areas of the Bazarduz and Tufandag glaciers have decreased by 0.4 km². [8, p.16]

According to forecasts prepared by local climatologists through various programs, the average annual temperature increase in our country in 2021-2050 will be 1.5°C-1.6°C. The resulting temperature rise could be about 0.3°C per decade in the first half of this century. Calculations also predict a 10-20% increase in precipitation by 2050 compared to 1961-1990 as a result of increased humidity. [3, p.314]

In this regard, proactive approaches are required to protect mountain tourism:

1. Sustainable Tourism Practices

- Ecotourism: Ecotourism activities should be encouraged in order to preserve the ecological balance. This will help preserve local flora and fauna with minimal impact on nature.

- Efficient Use of Resources: Efficient use of resources such as water and energy can help mitigate the effects of climate change.

2. Infrastructure Development

- Green Infrastructure: Green infrastructure projects should be implemented in mountain tourism regions. This will increase the use of renewable energy sources and reduce the carbon footprint.

- Transportation Systems: The creation of environmentally friendly transportation systems will facilitate the arrival of tourists to the region, while at the same time reducing the impact on the environment.

3. Education and Awareness

- Tourist Education: Tourists should be informed about climate change and its effects, and environmentally friendly behavior should be encouraged. Education is one of the primary prerequisites for combating climate change. Because no matter how many measures are taken by the administration, the chance of success is low unless this issue is explained to the implementers. Therefore, the trainings organized on the subject and participation should be increased.

- Local Community Participation: Involvement of local communities in climate change action will help to use their knowledge and resources more effectively.

4. Research and Monitoring

- Climate Change Research: Continuous monitoring of climate changes in mountain tourism regions should be conducted and strategies should be developed based on this information.

- Adaptation Strategies: Adaptation strategies for mountain tourism should be developed, these strategies should be aimed at combating the expected effects of climate change.

These measures are important to ensure the protection of mountain tourism from climate change and to promote the sustainable development of this area.

Tourism also has a great impact on such fields as economy, ecology, politics, culture. [11, p.339]

Training to raise awareness of business managers regarding climate change should be considered in two ways. The first of these is to establish climate change and environmental awareness within the scope of tourism education received by the individual in formal education institutions, as explained above. The second covers on-the-job training of managers. When the distribution of measures taken by businesses that stated that they took measures against climate change as a result of the research is examined, it is understood that

climate change training is not organized very much in businesses or managers do not participate in these trainings outside the business.

Ensuring sustainable socio-economic development in our country is one of the important priorities set by the government of Azerbaijan and implemented with great success. As is clear, this implies comprehensive, diversified development of the country's economy.

For example, the UN conference held in Rio de Janeiro, Brazil in 1992 adopted the concept of transition of modern society to Sustainable Development, which includes "Agenda of the XXI century", "Rio Declaration" and other documents. These documents were based on key issues of environment and development. A number of new long-term goals and targets have been put forward by the UN, which are important to be implemented in countries related to sustainable development.

More specifically, the World Summit proposed 17 goals for the period 2015-2030, and 193 countries made major commitments to implement these goals. These goals, which are expected to be implemented by the countries that have adopted the concept by 2030, include; ending all forms of poverty on our planet, ending hunger and malnutrition around the world, ensuring human health, providing the population with inclusive and equal quality education in society, achieving gender equality, ensuring people's access to clean drinking water and improving sanitation, the population of the planet providing a sustainable energy system, sustainable economic growth, decent work and eliminating unemployment, ensuring sustainable industry, innovation and infrastructure, reducing the widening inequality between different countries of the world, achieving sustainable housing, sustainable cities and communities , ensuring sustainable production and responsible consumption, combating climate change, protecting the marine ecosystem, protecting the land ecosystem, promoting peace and justice to ensure sustainable development, and expanding partnerships to fulfill the goals in the process of transitioning to sustainable development.

The Republic of Azerbaijan also joined the 17 Sustainable Development Goals approved for 2016-2030 at the Sustainable Development Summit held on September 25-27, 2015.

A number of measures are being taken to combat climate change, including reducing greenhouse gas emissions, increasing the use of renewable energy sources, improving energy efficiency, restoring and protecting forests, implementing sustainable agricultural practices, developing adaptation strategies, and others.

The United Nations Development Program and the government of Azerbaijan have held discussions on the priorities of the upcoming COP29 Conference, as well as the need to expand activities to limit global warming to 1.5 degrees.

The United Nations Climate Change Conference or the Conference of the Parties to the UN Framework Convention on Climate Change, better known as COP29, will be held in Baku on November 11-22, 2024, hosted by the government of Azerbaijan.

In addition, in the framework of the implementation of the 4th Priority "Great return to territories freed from occupation" and the 5th Priority "Clean environment and "green growth" country" in the document "Azerbaijan 2030: National Priorities for Socio-Economic Development" Currently, important works are being carried out in the direction of infrastructure restoration and SMART infrastructure formation in our territories freed from 30 years of occupation. Thus, the creation of a "green energy" zone, "smart city and smart village" projects have been developed and are already being implemented in our territories freed from 30-year occupation.

Conclusion.

The impact of global climate change on Azerbaijan's mountain tourism is a complex issue and may also show regional differences. It is important to reduce to some extent the problems caused by these changes by applying a number of adaptation and education strategies. Climate change has the potential to significantly influence the change of vegetation and living environment of animals and living standards both at the global level and in mountain ecosystems in Azerbaijan. This can create difficulties in generating interest for mountain hiking, ecotourism, as well as other mountain tourism activities. In addition, floods, rockfalls and other natural disasters that may occur due to climate change in mountainous areas can damage tourism infrastructure. This in itself can reduce the safety of tourists and the interest in the tourist destination. Another negative impact of climate change on tourism is the reduction of local jobs in the regions and damage to the economic situation of the local population. Because the process of the tourism of each region being closely connected with its economy is also manifested in Azerbaijan. In addition, problems such as drought and water shortage due to global warming can make it difficult to carry out activities in the mountainous areas of Azerbaijan.

In conclusion, the climate problem is a global issue that needs to be solved at the international level, and developing countries need to move towards a low-carbon economy.

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Pakistan-Azerbaijan economic relations

Rasim Abbasov

Tourism and field economy department of the Western Caspian University

Abstract

Azerbaijan regained its independence in 1991. In 1994, the establishment of a successful oil strategy under the leadership of National Leader Heydar Aliyev laid the foundation for the current successful economic development line of Azerbaijan. Favorable geographical position and political stability, many natural resource reserves, and the development of human capital. , caused Azerbaijan to become a promising and successful economic partner.

Azerbaijan, a strategic subject of the Ancient Silk Road, is today the country that is the main partner of all projects in the direction of the north-south-west-east transport networks and the restoration of the Ancient Silk Road. Azerbaijan, which is a strategic partner of all major international energy projects on the Eurasian continent, has many bilateral agreements with the Islamic Republic of Pakistan. signed, there are real alliance relations between our countries in the political, economic and social arenas.

Keywords: ancient silk road, foreign economic relations, strategic alliance, potential economic opportunities.

As a state with high national moral values, Pakistan is a fraternal country that has influence not only in the East, but all over the world. Pakistan-Azerbaijan economic relations are developing on a rising line, and potential opportunities in this field have been explored in the article.

In 2009, the total trade between the two countries amounted to 6087.8 thousand dollars, of which 140.0 thousand dollars were exports, and 5947.8 thousand dollars were import transactions. 14487.3 thousand dollars were import operations. In 10 years, the official trade turnover increased by more than 142%. It should be taken into account that during the last ten years, the overall development rate of our countries has increased many times, and the potential opportunities for further increasing economic cooperation are wide.

In Azerbaijan, especially in the direction of the development of the non-oil sector, strategic road maps for these areas have been strengthened, and successes have been achieved, the results of which are announced with official statistical indicators. development has been achieved. The Baku-Tbilisi-Kars railway was realized as a successful project in the direction of the restoration of the ancient Silk Road and is of great importance in the expansion of trade relations from China to Europe. The main part of the route passes through the territory of the countries that are members of the Economic Cooperation Organization, and this fact makes the route the economic relations of Pakistan-Azerbaijan, the brother states that are members of the organization. proves once again its significant impact on further expansion.

There are many potential opportunities that have a significant positive impact on the development of economic relations between our countries, both in energy resources and non-oil industry tourism, in the agricultural sector and in other sectors of the economy, especially in the service sector. they will achieve greater success than their economic relations.

Azerbaijan is a country with ancient traditions of statehood, surrounded by the Caspian Sea from the east, located in a favorable geographical position on the historical Silk Road. For centuries, trade caravans passed through the territory of Azerbaijan from east to west, from south to north, and the region was considered an important commercial region. It is no coincidence that the first democratic Azerbaijan Republic was established in the East in 1918 as a logical continuation of the ancient traditions of statehood

In 1991, Azerbaijan regained its independence. From the first days of independence, the brotherly Islamic Republic of Pakistan and the Republic of Turkey recognized the independence of Azerbaijan and started establishing diplomatic relations. That period was considered a difficult time for Azerbaijan. Financial problems, lack of a unified command, as well as internal strife, the Republic of Armenia, artificially created on the lands of the neighboring ancient Azerbaijan, started deporting Azerbaijanis from 1988, and since 1991, claims to the Karabakh region, which is an integral part of

Azerbaijan. As a result, 20 percent of our country's lands were invaded and up to one million compatriots were forced to migrate from their lands. The moral weight of this issue was much heavier than the material one.

In 1993, the national leader of the Azerbaijani people, Heydar Aliyev, came to power at the insistence of the people, and his successful diplomatic, political, economic and demographic measures led to the revival of the country. In our country, the formation of property relations according to market economic conditions, privatization processes, strategic planning for the development of agriculture, including the distribution of former collective farm and state farm territories to the population in rural areas are important measures.

In 1994, due to its importance, an important agreement on the production and export of important hydrocarbon resources, called the contract of the century, was signed with the world's most influential countries and companies. This contract can be considered the beginning of the economic development of independent Azerbaijan. Thus, after a successful oil strategy, the non-oil sector a solid foundation has been created for its development. The non-oil industry, which has a wide potential resource reserve, the construction sector, the agrarian sector, and tourism have embarked on the path of rapid development in the economy of Azerbaijan.

The Islamic Republic of Pakistan is a brotherly state with rich economic resources and significant political-diplomatic influence not only in the East, but all over the world.

The Islamic Republic of Pakistan is a country in South Asia. Pakistan is 6th in terms of population and 33rd in terms of area. The length of the coastal area is 1,046 km. The country is surrounded by the Arabian Sea and the Gulf of Oman to the south, India to the east, Afghanistan to the west, Iran to the southwest, and the People's Republic of China to the northeast. Pakistan, which is located between Tajikistan and Afghanistan's Wahan Corridor, also shares a maritime border with Oman. Its capital is Islamabad, its total area is 881,913 square kilometers, its population is more than 212 million (1)

Pakistan is the second country after Turkey to recognize the independence of Azerbaijan. The independence of the Republic of Azerbaijan was recognized by Pakistan on December 12, 1991. Diplomatic relations between the two countries were established on June 9, 1992[2].

Shortly after that, the permanent representation of Pakistan was opened in Baku, and in August 1997, the permanent representation of Azerbaijan was opened in Islamabad.

Pakistan is also among the first countries to open an embassy in Azerbaijan. Diplomatic relations between the two countries were established on June 9, 1992. On April 30, 1993, Pakistan chaired the meeting where UN Security Council Resolution No. 822 was adopted regarding the Armenia-Azerbaijan Nagorno-Karabakh conflict. In October 1995, the President of Pakistan, Sardar Farooq Ahmed Khan Legari, paid an official visit to Azerbaijan. The visit was held at a high level, and a number of documents were signed between the two countries, including the Protocol on the establishment of the Azerbaijan-Pakistan Joint Commission between the Government of the Republic of Azerbaijan and the Government of the Islamic Republic of Pakistan, and the "Agreement on Cooperation between the Republic of Azerbaijan and the Islamic Republic of Pakistan".)

During the reign of Mr. President Ilham Aliyev, Pakistan-Azerbaijani relations have expanded further, and the friendship and brotherly relations between the people of Pakistan and the people of Azerbaijan have deepened. The manifestation of political-diplomatic relations at the level of moral alliance has attracted special attention during the 44-day glorious national war with Azerbaijan's counteroffensive operations. . The statement issued by the Ministry of Foreign Affairs of Pakistan on the first day of the Patriotic War said: "We condemn the intense firing by the Armenian armed forces on the civilian population of the villages of Tartar, Aghdam, Fuzuli and Jabrayl regions of Azerbaijan on September 27, and this is another provocation. This is a serious threat to the peace and security of the entire region. Pakistan stands by the brotherly people of Azerbaijan and supports its territorial integrity. In addition, on September 30, a statement of support for Azerbaijan was shared on the official "Twitter" page of the Senate of Pakistan.

On October 18, 2020, Prime Minister of the Islamic Republic of Pakistan Imran Khan conveyed his most sincere congratulations to the President of Azerbaijan and the brotherly people of Azerbaijan on the occasion of Independence Day in his official Twitter page. He paid his respects to the Armed Forces of Azerbaijan, who bravely protected the territorial integrity of our country. He noted that Pakistan supports Azerbaijan in solving the Nagorno-Karabakh issue in accordance with the resolutions of the UN Security Council. On October 28, the National Assembly of Pakistan adopted a resolution strongly condemning Armenia's aggression against Azerbaijan and the brutal attacks of Armenian armed forces against the civilian population of Azerbaijan. On November 11, Pakistan's Ministry of Foreign Affairs issued a statement welcoming the cessation of hostilities in

the Karabakh region.

Pakistan-Azerbaijan have achieved success in expanding economic relations as well as in all fields. We can explain this more clearly in the table based on statistical data.

Table 1. Volume of foreign trade between Azerbaijan and Pakistan. The amount is expressed in 1000 US dollars.

years	2015	2016	2017	2018	2019	2020
Trade Circulation	1 996,6	7 295,4	8 251,1	11 167,5	14 781,8	13283,1
Import	1 703,0	5 862,2	6 424,7	10 359,4	14 487,3	11 625,5

The table was compiled by the author based on the official data of the State Statistics Committee of the Republic of Azerbaijan.

As can be seen from the table, during 2015-2020, the foreign trade turnover between the countries was 1 million 996.6 thousand dollars, and in 2020 this figure was 13 million 283.1 thousand dollars. During this period, the volume of exports from Azerbaijan to Pakistan increased from 293.6 thousand dollars to 1 million 657.6 thousand dollars. The analysis of foreign trade relations shows that imports from brotherly Pakistan to Azerbaijan prevailed more. Thus, the volume of imports increased from 1 million 703 thousand manats to 11 million 625.5 thousand manats in the relevant period. Table 2 shows the amount and value of the main products imported from Pakistan to Azerbaijan in 2020.

Table 2 Imports from Pakistan in 2020

some imported products	Amount tone	The amount With 1000 USD
Pakistan potato	171,0	51,3
Pakistan fresh fruit	1 276,3	944,5
Pakistan rice	3 485,6	2 023,8
Pakistani ethyl alcohol	27,2	246,6
Pakistani soap	654,1	2 275,7

The source is the official website of the statistics committee

We would like to note that the Joint Working Group on trade cooperation between Azerbaijan and Pakistan plays a key role in strengthening economic relations. The 3rd meeting of the Working Group was held on December 24, 2020 in the format of a video conference Video conference of the Joint Working Group on trade cooperation between Azerbaijan and Pakistan The third meeting was held in the format.

The meeting was attended by ambassadors of both countries, representatives of relevant institutions, as well as representatives of the Ministries of Foreign Affairs and Health of Azerbaijan, the State Oil Company and the Food Safety Agency.

At that time, Rovshan Najaf, Deputy Minister of Economy, Co-Chairman of the Joint Working Group, noted the high level of political and economic relations between Azerbaijan and Pakistan. The deputy minister reported on the next military provocations of the aggressive Armenian armed forces, which started on September 27, and emphasized that our brave Army won a great victory under the leadership of the President of the Republic of Azerbaijan, Commander-in-Chief Ilham Aliyev. It was stated that Pakistan's unequivocal and decisive position regarding Armenia's policy of aggression, always supporting Azerbaijan and showing solidarity are highly appreciated by our people.

It was noted that the implementation of complex measures in the direction of the revival of our lands freed from occupation will further strengthen regional and international cooperation, and will further increase the possibilities of investing in the Karabakh region.

Emphasizing the expansion of Azerbaijan-Pakistan economic relations, the Deputy Minister drew attention to the fact that 2085 Pakistani companies are operating in our country and encouraged his friends and brothers Pakistani businessmen to take advantage of the favorable opportunities created in Azerbaijan's industrial parks, agriculture, light industry, pharmaceuticals,

tourism, etc. invited to invest in the fields.

At the meeting, information was provided on Azerbaijan's economy, measures to combat the coronavirus pandemic, and the transport and transit capabilities and export potential of our country were highlighted.

Muhammad Sualeh Faruqi, Secretary of Commerce of Pakistan, co-chairman of the Joint Working Group, congratulated the people of Azerbaijan on the occasion of the victory, said that his country attaches special importance to the development of cooperation with Azerbaijan, and shared his views on the prospects for the development of partnership.

At the meeting, a number of proposals were put forward on the directions of cooperation, holding virtual business forums to intensify mutual investments and increase the volume of trade turnover, participation in business events to be held in both countries, creation of a working group on investment cooperation under the leadership of investment promotion institutions, "Azerbaijan Trading House" in Pakistan. ", the expansion of the contract-legal base in the field of food safety and trade, investments in the textile, pharmaceutical and energy sectors, as well as the development of cooperation between small and medium business circles were discussed.(4)

Agricultural products dominate among the products imported by the Republic of Azerbaijan from Pakistan.

There are great potential opportunities in the direction of strengthening economic relations between brother Pakistan and Azerbaijan. Thus, both countries are considered as important strategic partners both in the region where they are located and in the whole world. Achieving significant achievements in international energy projects, including important communication and transport links connecting the East-West, North-South regions, Azerbaijan today is a successful partner of all projects that are a logical continuation of the ancient SILK ROAD. One of these strategic projects is the Baku-Tbilisi-Kars or Baku-Tbilisi-Kars railway line (abbr. BTQ) — a railway project commissioned on October 30, 2017. The railway line runs from Baku, the capital of Azerbaijan, to Tbilisi, Georgia and Akhalkalaki, to Kars, Turkey. This railway connects Azerbaijan and Turkey.

On September 27, 2017, after the first test passenger train from Tbilisi to Akhalkalaki, BTQ railway was declared open by the President of Azerbaijan Mr. Ilham Aliyev at a solemn ceremony held in Alat.

With this railway, products from Asia will be delivered to Europe in as little as 15 days. The project aims to connect Turkey and Azerbaijan (thus Central Asia and China to Europe) by rail. It is planned that 3-5 million tons of cargo will be transported by this railway in the third year of operation, 6-8 million tons in the fifth year of operation, and 3 million passengers and 17 million tons of cargo per year thereafter. (5)

Currently, there are more than 2,000 Pakistani companies in Azerbaijan. (6)

Thus, the Pakistan-Azerbaijani brotherhood is being successfully continued in all directions. We believe that in the future, the use of prospective cooperation opportunities in all areas of the economy will continue at an increasing pace.

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Legal Framework and Current State of International Freight Transportation in Azerbaijan

Asger Elshan oglu ZEYNALOV[1]
[1]Doctoral Student at Azerbaijan State University of Economics (UNEC)

Abstract

International freight transportation holds exceptional importance in the context of expanding global trade, optimizing production chains, and deepening interregional economic cooperation. Research indicates that reducing transportation costs enhances countries' export potential and stimulates economic growth. Azerbaijan's geostrategic position, particularly as a bridge connecting Europe and Asia, has transformed the country into a regional logistics hub for international freight. In recent years, large infrastructure projects such as the Middle Corridor, Baku–Tbilisi–Kars railway, Alat International Sea Trade Port, and the North–South transport corridor have further strengthened this role.

Azerbaijan's policies in international freight transportation are based on a multifaceted legal framework. At the national level, the primary document is the "Law on Transport," which regulates the organization of transport services, transit procedures, state supervision, and measures to enhance competitiveness. Sector-specific legislation, including the "Law on Road Transport," "Law on Railway Transport," and "Law on Sea Ports," ensures comprehensive regulatory coverage. Azerbaijan has also joined international conventions such as TIR, CMR, ADR, and COTIF, facilitating simplified customs procedures, safety assurance, and the development of multimodal transportation.

Strategic state programs, including the "Strategic Roadmap for the Development of Logistics and Trade" and the "State Program for the Development of Azerbaijan's Logistics and Transit Potential," prioritize digitalization, tariff optimization, infrastructure modernization, and acceleration of transit flows.

Although the current situation demonstrates Azerbaijan's strengthened position as a regional transport hub, challenges remain, such as increasing the throughput of border checkpoints, optimizing transport costs, and fully implementing digital logistics solutions.

Overall, the established legal framework and strategic initiatives strengthen Azerbaijan's competitive advantage in international freight transportation and ensure the country's deeper integration into the global trade network. For sustainable development in this area, institutional reforms, risk management, and enhanced international cooperation are necessary.

Keywords: International freight transportation, Azerbaijan, logistics hub.

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International freight transportation is one of the main mechanisms accelerating the integration of the global economy. Its role is not limited to facilitating cross-border movement of goods; it also creates a vital infrastructure base for organizing global production chains, fostering interregional cooperation, and enhancing welfare levels. In this context, reducing transportation costs increases trade volumes and export competitiveness. Studies by Behar and Venables (2010), Hummels (2007), Donaldson (2018), and others show that even a 1% reduction in transportation costs can lead to a 3–6%, sometimes 6–7%, increase in exports. This encourages countries to actively implement policies aimed at creating favorable conditions for international freight.

Analiz

Azerbaijan's geoeconomic position enables it to act as a strategic link in international transport and logistics chains. The country functions as a natural bridge between Europe and Asia, making international freight a priority in national transport policy. Key infrastructure projects such as the Middle Corridor (Trans-Caspian International Transport Route), Baku–Tbilisi–Kars railway, Alat International Sea Trade Port, North–South Corridor, and Astara railway hub strengthen Azerbaijan's role as a logistics center. These projects have intensified freight flows both regionally and along the China–Central Asia–Europe route. Statistical data confirm this: in recent years, Azerbaijan's international transit freight volumes have increased, along with foreign currency inflows and sectoral value added.

International freight also brings geopolitical dividends. Azerbaijan's leadership in the Middle Corridor

strengthens its position in facilitating Central Asian countries’ access to European markets, while enhancing transport cooperation with the EU, Turkey, China, Georgia, Kazakhstan, and Turkmenistan. However, challenges remain, such as transit competition, non-optimized border-crossing procedures, and shifts in global supply chains.

To support international freight, Azerbaijan has established a comprehensive legal framework. At the national level, the “Law on Transport” regulates transport services, international shipments, transit rules, insurance mechanisms, and state supervision. Sector-specific laws—including the “Law on Road Transport” (2008), “Law on Railway Transport,” and “Law on Sea Ports” (2014)—further ensure legal coverage. Presidential programs, such as the 2025 State Program for developing transport infrastructure in Baku and surrounding areas, focus on expanding transit potential and competitiveness.

Azerbaijan has actively integrated into international legal frameworks, joining conventions such as TIR (1975), CMR (1956), ADR, and COTIF, which simplify customs procedures, ensure safety, and promote multimodal transportation. TRACECA cooperation expands regional collaboration along the Europe–Caucasus–Asia corridor. Azerbaijan, as a co-founder and active participant of the Middle Corridor, benefits from unified tariff policies and coordinated logistics solutions.

Strategic documents, including the 2016 “Strategic Roadmap for Logistics and Trade Development” and the 2022–2026 State Program for the Development of Logistics and Transit Potential, target increased transit volumes, infrastructure modernization, tariff optimization, digital logistics, and simplified customs procedures.

These measures enable an integrated multimodal transport system, combining rail, road, sea, and air transport. Digital platforms and the “Single Window” customs system accelerate transit flows, strengthening Azerbaijan’s position as a regional transport hub.

Currently, indicators of international freight activity are rising. The opening of the Baku–Tbilisi–Kars railway and the operationalization of Alat Port have increased transit volumes and regional logistics integration. Full operation of the North–South Corridor provides an alternative, shorter route along the India–Russia line.

Nevertheless, challenges remain: enhancing border-crossing capacity, optimizing transportation costs and time compared to competing routes, fully implementing digital solutions, and ensuring transit security.

Conclusion

Overall, the development of international freight adds economic value, expands regional cooperation opportunities, and integrates Azerbaijan more deeply into global trade networks. The established legal framework, strategic projects, and modern logistics infrastructure form the foundation of these achievements, while ongoing institutional reforms, risk management, and competitiveness maintenance are essential for sustainable development.

Sustainable marketing: strategies for reducing pollution through ecofriendly tourism products

Ravan Idrisli[1] , Mammadali Mammadrizayev[2]

[1]*Azerbaijan University, Baku city, Nasimi district, Jeyhun Hajibeyli, 71*
ravan.idrisly@student.au.edu.az, *0009-0005-8291-3157*
[2]*Western Caspian University, Istiqlaliyyat Street, 31, Baku, AZ0001, Azerbaijan,*
memmedeli.memmedrzayev@weu.edu.az, *0009-007-5327-0484*

Abstract

This article explores the intersection of sustainable marketing and eco friendly tourism, focusing on strategies that can effectively reduce pollution within the tourism industry. With the global rise in environmental consciousness, the need for sustainable tourism practices has become increasingly evident. This paper highlights key marketing strategies that promote eco friendly tourism products, encouraging both consumers and businesses to adopt greener practices. By reducing pollution through targeted marketing campaigns and sustainable product development, tourism companies can contribute to environmental preservation while maintaining economic growth. Through case studies and practical solutions, this article emphasizes the role of marketing in driving sustainability and offers insights into overcoming common challenges in promoting eco-friendly tourism.

Keywords: Sustainable marketing, eco friendly tourism, pollution reduction, environmental sustainability, eco conscious travelers

Introduction

The tourism industry is responsible for a range of environmental issues, including pollution and resource depletion while a significant contributor to global economic growth. In many regions, mass tourism, unchecked development, as well as a lack of sustainable practices have caused environmental degradation. To comply with sustainable practices that reduce the ecological footprint the tourism industry encounters a huge amount of pressure as the world becomes more aware of the demand and need for protecting the environment.

It is not well known that Sustainable marketing actually may play a critical role in this shift. It not only helps businesses adapt to environmentally conscious values, but also educates and influences consumer behavior. What is obvious is that small, middle-size and big companies can reduce pollution while still catering to the demands of modern travelers easily if they promote eco-friendly tourism products such as green accommodations, carbonneutral tours, and sustainable transportation.

In this essay, the economic benefits that can be obtained by adopting sustainable practices will be discussed as well as for overcoming challenges in implementing these strategies, some practical solutions will be offered. The significance of sustainable marketing in tourism and strategies that can help to reduce pollution by promoting eco-friendly tourism products will be indicated.

Ultimately, sustainable marketing is not only a tool for environmental preservation but also a way to ensure the long term profitability of tourism businesses.

Sustainable marketing in tourism

Sustainable marketing refers to the promotion of goods and services that not only fulfill consumer demands but also contribute to environmental protection and social well-being. Within the tourism sector, this involves crafting marketing strategies that minimize ecological harm while showcasing the positive aspects of eco-friendly travel. As environmental awareness among consumers grows, sustainable marketing has become increasingly influential in steering them toward responsible tourism choices.

Beyond merely promoting products, sustainable marketing in tourism is about creating a brand image that appeals to environmentally-conscious travelers. This includes offering transparency regarding eco-friendly practices and positioning sustainability as a central value. Some common strategies include promoting green certifications, encouraging the use of renewable energy, and implementing waste-reduction initiatives.

Developing a story that speaks to the environmental goals of the travel industry as well as the values of the target customer is essential to marketing eco-friendly travel products. Digital marketing strategies may, for instance, emphasize the preservation of natural resources, showcase vacation locations that place a high priority on sustainable tourism, and promote ethical travel that leaves fewer carbon footprints. This strategy not only draws eco-aware travelers, but it also develops enduring brand loyalty as companies are more intimately linked to sustainable operations.

Pollution in Tourism. Tourism, particularly mass tourism, has been a significant driver of pollution across various ecosystems. Carbon emissions from transportation, such as cars, buses, and airplanes, and the accumulation of waste left behind by tourists in ecologically sensitive areas, are major contributors. Unregulated tourism can severely affect beaches, national parks, and cultural heritage sites, with improper waste disposal being a significant issue. Additionally, activities like cruise tourism exacerbate pollution, as large numbers of visitors disembark in fragile environments, heightening the ecological strain.

Pollution not only damages the environment but also diminishes the appeal of tourist destinations. Beaches littered with plastic, polluted water bodies, and degraded natural areas make places less attractive to both current and potential visitors. Therefore, it is critical for the tourism industry to act swiftly, encouraging the adoption of environmentally friendly products and solutions that mitigate the negative impacts of tourism-related pollution.

Marketing plays a key role in this transformation. By creating campaigns that promote sustainable practices, businesses can educate tourists on how to reduce their environmental footprint. For example, tourism companies can advocate for proper waste disposal methods, the use of reusable products, and low-impact transportation options such as walking, cycling, or public transit.

Eco-Friendly Tourism Products. Eco-friendly tourism offerings encompass services and experiences designed to minimize environmental impact and support the preservation of natural resources. Examples include eco-conscious accommodations such as hotels powered by renewable energy, low-impact tours focused on wildlife conservation or cultural heritage preservation, and sustainable transportation options like bicycles or electric vehicles.

A critical aspect of promoting these products is ensuring they appeal to a broad range of travelers. When eco-friendly travel options are framed as having additional benefits—such as promoting health, offering immersive experiences, or helping to protect unique cultural or natural sites—they become more attractive to potential tourists. For instance, marketing ecolodges located within natural reserves can appeal to those seeking both sustainable practices and a touch of luxury.

Successful case studies provide valuable insights into this approach. Costa Rica, for example, has established itself as a leader in sustainable tourism through its promotion of ecolodges and conservation initiatives. These efforts not only help reduce pollution but also draw eco-conscious travelers willing to pay a premium for responsible travel options.

By promoting green certifications, emphasizing waste-reduction efforts, and showcasing the unique advantages of eco-friendly travel, businesses can foster consumer trust and position themselves as frontrunners in the sustainable tourism industry.

Discussion

The intersection of marketing, tourism, and sustainability presents a unique opportunity to influence consumer behavior while addressing environmental challenges. The strategies outlined in this article—such as promoting eco friendly tourism products and leveraging sustainable marketing techniques—highlight how businesses can simultaneously reduce pollution and enhance their market presence.

Sustainable marketing plays a key role in encouraging responsible tourism. By positioning eco friendly options as desirable and aligning them with consumer values, businesses can attract environmentally conscious travelers. For example, digital marketing campaigns that emphasize sustainability, combined with certifications that ensure environmental accountability, make sustainable tourism products more appealing. Furthermore, the incorporation of incentives and education into marketing strategies not only raises awareness but also motivates tourists to adopt eco friendly habits.

To effectively promote sustainable tourism, businesses must first identify and understand their target audience. This involves segmenting potential customers based on demographics, psychographics, and behavioral patterns. Demographics: Factors such as age, income, education level, and geographical location can influence travel preferences. For instance, Millennials and Gen Z are increasingly prioritizing sustainable options, as evidenced by studies indicating that 73% of Millennials are willing to pay more for eco-friendly products. Psychographics: Understanding consumers' values, interests, and lifestyles is crucial. Sustainable travelers often seek authentic

experiences, prioritize environmental conservation, and are willing to engage with local cultures. By tailoring marketing messages to resonate with these values, businesses can attract eco-conscious travelers. Behavioral patterns: Analyzing past travel behaviors can provide insights into how consumers make travel decisions. This may include looking at preferences for specific types of accommodations (e.g., eco-lodges) or activities (e.g., nature-based tours).

Understanding the competitive landscape is vital for effective sustainable marketing. Businesses should analyze competitors who also offer eco-friendly products and services. This can be achieved through: Market Research: Gathering data on competitors’ marketing strategies, strengths, and weaknesses will help identify opportunities for differentiation. Tools like SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) can provide a structured approach to understanding where a business stands in the market.

Identifying Gaps: Through competitive analysis, businesses can uncover gaps in the market that their offerings can fill. For example, if competitors focus primarily on luxury eco-tourism, there may be an opportunity to market more budget-friendly sustainable options.

Adapting Best Practices: Learning from competitors' successful campaigns can provide valuable insights into effective messaging, channels, and tactics that resonate with target audiences.

Once target groups are identified and the competitive landscape is understood, businesses can develop tailored marketing strategies that emphasize sustainability:

Messaging: The messaging should focus on the environmental and social benefits of choosing sustainable tourism options. Highlighting unique experiences, conservation efforts, and community engagement can resonate with eco-conscious consumers.

Digital Marketing: Utilizing digital platforms is crucial for reaching a broader audience. Social media campaigns, influencer partnerships, and content marketing can effectively promote sustainable practices. Engaging content that showcases stunning natural landscapes, local communities, and eco-friendly initiatives can attract potential travelers.

Certification and Transparency: Obtaining eco-certifications and transparently communicating these credentials in marketing materials builds trust with consumers. Certifications such as Green Key or Travelife can validate a business’s commitment to sustainability, making it more appealing to eco-conscious travelers

Consumer Education: Marketing campaigns should also include educational components that inform travelers about the importance of sustainable tourism. This can be achieved through blogs, webinars, and social media posts that discuss the impact of tourism on the environment and the benefits of eco-friendly practices.

Success stories of sustainable tourism marketing

Several countries and businesses have successfully implemented sustainable tourism marketing strategies, setting global benchmarks. One of the most notable examples is Costa Rica, a country that has built its tourism industry around sustainability. With its extensive network of national parks, ecolodges, and conservation areas, Costa Rica has positioned itself as a leader in ecotourism. The country's government and private sector work together to promote its “pura vida” philosophy, which emphasizes environmental protection, conservation, and a deep connection to nature. Marketing campaigns often highlight Costa Rica's biodiversity, conservation efforts, and commitment to sustainable tourism, which in turn attracts a growing number of eco conscious tourists. As a result, Costa Rica’s tourism sector has thrived while contributing to the preservation of its natural resources.

Another prime example is New Zealand, which has strategically marketed itself as a "clean, green" destination through its “100% Pure New Zealand” campaign. This campaign not only showcases the country’s breathtaking landscapes but also emphasizes the importance of preserving these environments through sustainable practices. By promoting ecofriendly activities such as wildlife conservation tours, nature walks, and sustainable accommodations, New Zealand has successfully attracted travelers who prioritize sustainability. The campaign has been widely regarded as one of the most effective tourism marketing initiatives globally, and it has significantly contributed to the country’s economy while reducing the environmental strain from mass tourism.

In Iceland, the promotion of sustainable tourism is deeply integrated into the country’s national branding. The "Inspired by Iceland" campaign encourages tourists to respect the natural environment by following the Icelandic Pledge, which asks visitors to protect nature by avoiding off road driving, not littering, and respecting wildlife. This pledge is a key component of Iceland’s marketing strategy, appealing to tourists who want to experience the country’s natural beauty responsibly. Through this initiative, Iceland has not only educated tourists about sustainable practices

but also cultivated a brand identity deeply rooted in environmental stewardship.

The role of digital marketing in promoting sustainability

In today's digital age, online marketing has become a powerful tool for promoting sustainability. Social media platforms like Instagram, YouTube, and Facebook are ideal channels for tourism businesses to showcase their eco friendly practices and engage with potential travelers. By using visual storytelling, businesses can highlight the beauty of natural landscapes, conservation efforts, and the importance of reducing environmental impact while traveling.

For example, Adventure Travel Trade Association (ATTA) regularly uses social media to promote sustainable travel experiences that align with ecofriendly values. Their campaigns focus on responsible travel, wildlife preservation, and supporting local communities. This not only raises awareness about the importance of sustainability but also attracts travelers who seek authentic, low-impact experiences. The use of hashtags such as Sustainable Travel and EcoTourism helps businesses target environmentally conscious consumers, making it easier to connect with their ideal market.

Influencer marketing is another powerful tool in promoting sustainable tourism. By partnering with influencers who advocate for environmental causes, tourism businesses can tap into large audiences of followers who are already predisposed to making eco-friendly choices. For instance, National Geographic regularly collaborates with eco-influencers who promote sustainable travel experiences, generating millions of impressions for eco-friendly tourism campaigns.

Technological innovations driving sustainable tourism

Emerging technologies such as artificial intelligence (AI) and blockchain are playing a transformative role in promoting sustainability in tourism. AI powered systems allow businesses to personalize sustainable travel recommendations based on a traveler's preferences, making eco-friendly choices more accessible and appealing. For instance, platforms like TripAdvisor use AI to recommend accommodations that have eco certifications or sustainable practices. This not only makes it easier for consumers to make informed decisions but also encourages businesses to adopt greener practices in order to gain visibility on such platforms.

Blockchain technology, on the other hand, offers transparency and trust in sustainable tourism marketing. It allows businesses to track and verify the carbon footprint of their operations, providing travelers with verifiable data about the environmental impact of their trip. Cool Effect, a carbon offset platform, uses blockchain to track and verify the offsetting of carbon emissions from flights, making it easier for travelers to choose carbon neutral travel options. This transparency builds trust and ensures that businesses are held accountable for their sustainability claims, reducing the risk of greenwashing.

Challenges and Solutions in Implementing Sustainable Tourism Marketing

Despite the clear benefits, implementing sustainable marketing in tourism comes with several challenges. One of the primary obstacles is financial investment. Many small and medium sized tourism businesses struggle with the upfront costs of adopting eco-friendly technologies, such as renewable energy systems or waste reduction programs. While these investments lead to long-term savings, the initial financial burden can be prohibitive.

Governments and international organizations play a crucial role in overcoming these financial barriers. For instance, the United Nations Environment Programme (UNEP) and the World Tourism Organization (UNWTO) provide grants and financial assistance to businesses adopting sustainable practices. Additionally, public-private partnerships can provide the necessary resources and expertise for businesses to implement sustainability measures effectively.

Another significant challenge is consumer awareness. Although there is a growing demand for sustainable tourism, many travelers remain unaware of the environmental impact of their choices. Tourism businesses must invest in consumer education as part of their marketing strategy. Campaigns that explain the environmental benefits of choosing eco-friendly accommodations, low-impact activities, and carbon neutral travel options are essential for driving behavior change.

One promising solution is the use of interactive content in marketing campaigns. By creating quizzes, virtual tours, or educational videos that engage travelers on sustainability issues, businesses can raise awareness in a more impactful way. For example, Lonely Planet offers interactive travel guides that highlight sustainable practices and eco-friendly choices, providing travelers with a hands on learning experience.

Future trends in sustainable tourism marketing

The future of sustainable tourism marketing is set to be shaped by technological advancements,

consumer demand, and regulatory frameworks. AI driven personalization is likely to become more prominent, allowing businesses to deliver highly targeted eco-friendly travel recommendations based on individual preferences. This will not only make sustainable options more accessible but also enhance the overall travel experience by aligning it with personal values.

Another key trend is the rise of carbon labeling in tourism products. Similar to nutrition labels on food, carbon labels provide clear information about the carbon footprint of travel activities, accommodations, and transportation options. This trend is already being seen in airlines like KLM, which now offers a detailed breakdown of the carbon emissions for each flight, allowing passengers to choose more sustainable travel options. As more businesses adopt carbon labeling, it will become an essential part of marketing sustainable tourism products.

Finally, sustainable certifications will continue to play a critical role in the future of tourism marketing. Certifications such as Green Key, EarthCheck, and Travelife will become increasingly important in building consumer trust and differentiating sustainable businesses from competitors. As travelers seek out more eco-friendly options, businesses that hold these certifications will enjoy a competitive advantage in the market.

Results and Discussions

The findings from the exploration of sustainable tourism marketing strategies reveal that businesses can significantly reduce their environmental footprint while maintaining or even enhancing their market position. As tourism increasingly becomes a global economic driver, adopting sustainability measures is not only an ethical responsibility but also a critical component of long-term business success.

Increased Adoption of EcoFriendly Practices

The adoption of eco friendly practices in tourism has seen remarkable growth, particularly in destinations that emphasize sustainability in their marketing strategies. For instance, Costa Rica, which dedicates approximately 26% of its land to protected areas, reported that 62% of its tourists engage in activities related to nature and ecotourism (Presence of Ecotourism in Costa Rica). This trend has been driven largely by successful marketing campaigns that highlight the country's natural beauty and its commitment to environmental conservation.

In the hotel industry, the green certification movement has gained momentum, with platforms like TripAdvisor's Green Leaders Program recognizing and promoting hotels that implement sustainable practices. According to a study conducted by Booking.com, 83% of travelers said that sustainable travel is important to them, and 58% of respondents indicated they are more likely to choose an accommodation if it has a sustainable certification (Booking.com (2021). *Sustainable Travel Report 2021)*. This shows that sustainable marketing not only encourages eco friendly practices but also increases consumer trust and preference.

The future of sustainable tourism marketing will see even more destinations and businesses adopting these practices as a standard rather than an option. As consumer awareness grows, businesses that fail to adopt eco friendly practices may lose market share to competitors who successfully position themselves as environmentally responsible. This shift will likely be accelerated by regulatory frameworks that increasingly demand sustainability from tourism operators, particularly in regions vulnerable to climate change impacts.

Economic Viability of Sustainability

One of the most critical findings is that eco friendly tourism can be economically viable, often leading to higher profitability. By targeting eco conscious travelers, businesses can charge premium prices for sustainable tourism products and services. For example, ecolodges and sustainable resorts that offer unique, nature based experiences often command higher rates than standard hotels. In New Zealand, tourism operators promoting sustainable products reported a 2030% increase in revenue, largely driven by international travelers seeking ecofriendly experiences (TravelPerk).

Long Term cost savings are another factor that makes sustainability economically attractive. Businesses that invest in renewable energy, waste reduction, and water conservation technologies often see reduced operational costs. For instance, hotels that implement solar power systems or energy efficient appliances report a significant drop in energy expenses. Moreover, water saving technologies, such as low flow faucets and toilets, can reduce water usage by up to 30%, resulting in lower utility bills.

As eco conscious consumers continue to demand sustainable tourism options, businesses that prioritize sustainability will have a competitive edge. In addition, carbon offset programs are becoming more mainstream, allowing travelers to mitigate their environmental impact while contributing to reforestation, renewable energy, and conservation projects. Airlines like KLM and easyJet have implemented carbon offsetting programs, where passengers can choose to offset the carbon emissions

from their flights. These initiatives not only reduce pollution but also serve as marketing tools that appeal to eco conscious consumers.

Role of collaboration and government support

The success of sustainable tourism marketing depends heavily on collaboration between the private sector, governments, and international organizations. In many regions, governmental incentives and policies have played a critical role in promoting eco-friendly tourism practices. For instance, the European Union's Green Deal has set a target of reducing greenhouse gas emissions by 55% by 2030, which includes significant changes in the tourism industry (European Commission). EU countries are incentivized to adopt sustainable tourism models through grants and subsidies, making it easier for businesses to invest in green technologies.

In Costa Rica, the government's Certification for Sustainable Tourism (CST) program helps businesses adopt and promote eco friendly practices by offering a widely recognized certification that guarantees sustainable operations. This initiative not only boosts the credibility of businesses but also encourages them to invest in long term sustainability. Government policies like these are essential for reducing the financial burden on small and medium sized businesses and ensuring that sustainability becomes a standard practice across the industry.

International organizations, such as the United Nations Environment Programme (UNEP) and the World Tourism Organization (UNWTO), also play an essential role in driving sustainable tourism. These organizations provide funding, research, and policy guidance to governments and businesses, ensuring that sustainable practices are integrated into the broader tourism ecosystem. Additionally, the Global Sustainable Tourism Council (GSTC) sets international standards for sustainability, offering a framework that businesses can follow to become certified and gain international recognition.

Future Trends in Sustainable Tourism

The future of sustainable tourism marketing lies in leveraging technological innovations and adapting to changing consumer demands. Artificial intelligence (AI) will play a significant role in personalizing sustainable travel options for consumers. AIdriven platforms can analyze traveler preferences and recommend eco friendly accommodations, tours, and transport options, creating a seamless and personalized eco travel experience. As this technology becomes more integrated into travel planning, tourism businesses that offer sustainable options will be able to reach their target audiences more effectively.

Another emerging trend is the use of blockchain technology to provide transparency in sustainability claims. With concerns over greenwashing (falsely marketing products as environmentally friendly), blockchain allows businesses to offer verifiable proof of their ecofriendly practices. For example, blockchain can track the carbon emissions of a traveler's itinerary and verify whether a hotel truly meets green certification standards. This technology will increase consumer trust and help businesses differentiate themselves in a crowded market.

Furthermore, carbon labeling is set to become a key component of future tourism marketing. Similar to nutrition labels on food products, carbon labels provide travelers with clear information about the environmental impact of their travel choices. Companies like KLM have already introduced carbon labeling for flights, giving passengers the option to choose lower impact travel options. As more businesses adopt this practice, carbon labeling will likely become a standard in the tourism industry, empowering consumers to make informed decisions about their environmental footprint.

Integration of Sustainability and Profitability

Perhaps one of the most important insights from this article is that sustainability and profitability are not mutually exclusive. Businesses that adopt sustainable practices often experience increased customer loyalty, enhanced brand reputation, and access to new markets. By aligning their marketing strategies with sustainability, tourism operators can differentiate themselves in a competitive marketplace and attract a growing segment of eco conscious travelers.

Moreover, sustainable tourism marketing allows businesses to build a positive brand image, particularly among younger travelers. Millennials and Gen Z are increasingly prioritizing ethical and sustainable brands, with 73% of millennials willing to pay more for sustainable products (First Insight (2023). *The State of Consumer Spending: Gen Z Shoppers Demand Sustainable Retail*.FirstInsight). This demographic shift presents a significant opportunity for businesses that market themselves as environmentally responsible, offering long term profitability while contributing to environmental preservation.

Conclusion

The tourism industry stands at a crossroads, with the pressing need to adopt sustainable practices to mitigate its environmental impact and ensure long term viability. Pollution, resource depletion, and habitat destruction are significant concerns associated with conventional tourism models, but by

shifting toward eco friendly practices, the industry can play a pivotal role in environmental conservation.

Sustainable marketing emerges as a critical tool in driving this transformation. By promoting eco friendly tourism products and services, businesses can influence consumer behavior and encourage more responsible travel choices. Marketing strategies such as digital campaigns, eco certifications, partnerships with environmental organizations, and incentives for sustainable travel choices offer powerful methods to reduce pollution while meeting the demands of modern travelers.

This article has demonstrated that, when done correctly, sustainable tourism is not only environmentally beneficial but also economically viable. Eco Friendly tourism creates new opportunities for job creation, local entrepreneurship, and long term profitability. The economic advantages of reducing pollution and adopting sustainable practices extend far beyond the immediate benefits, helping destinations maintain their appeal and ensuring the sustainability of tourism businesses in the future.

However, the road to sustainable tourism is not without its challenges. Financial constraints, consumer awareness gaps, and the need to balance profitability with sustainability require strategic approaches. Solutions such as government incentives, consumer education, transparent communication, and region specific strategies can help businesses overcome these barriers and successfully integrate sustainability into their marketing efforts.

Looking ahead, the importance of sustainability in tourism will only grow as consumers become more environmentally conscious and global regulations around pollution and environmental protection become stricter. Businesses that embrace sustainable marketing will not only be contributing to the preservation of the planet but also positioning themselves as leaders in the tourism sector, poised for long term success in an evolving marketplace.

By focusing on both environmental and economic sustainability, the tourism industry has the potential to make a profound and lasting impact. Through innovative marketing strategies that promote eco friendly tourism products and reduce pollution, the industry can lead the way in creating a greener, more sustainable future for generations to come.

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Energy Tourism Potentials of Kalbajar Region, current opportunities and future prospects

Mustafayeva Gulnisa Alisafa, Mirzayev Sakhavat Ahliman

glnisa.mustafayeva@mail.ru, mirzeyev.s@gmail.com
Western Caspian University

Absract

The reconstruction works carried out in Kalbajar region in 2020-2024, at the same time, the fact that the region has a great energy tourism potential with both its natural resources and geographical conditions, will increase the possibility of this area becoming famous in the world as one of the places that will generate great tourism interest in the future. Directions such as hydropower, geothermal energy and mountain tourism will be developed in the region. Effectively using the energy resources of Kalbajar, it will be possible to turn this region into a local and international tourism center. The development of tourism based on renewable energy technologies in the region will ensure environmental sustainability and will make an important contribution to the socio-economic development of the region. In this article, the tourism potential of the Kalbajar region has been assessed, taking into account the geographical relief, climate characteristics, natural resources and current, as well as future infrastructure opportunities. In the future, conducting new research and observations in this direction, introducing these areas, etc. It is very important to carry out works like this in terms of the recognition of this region at the world level, including the attraction of tourists from all over the world.

Keywords: tourism, energy, region, territory, resource, hydropower, climate.

Introduction

Since the Kalbajar region, which is one of the historical lands of the Republic of Azerbaijan, has been under the occupation of Armenia for 30 years, all infrastructure objects in these areas, including residential buildings, have been completely destroyed. In 2020, in the Kalbajar district, which was liberated after the 44-day Patriotic War, construction works have been started since that very day. So, due to the complex terrain of the area and rich hydropower potential, the construction of new Hydroelectric Power Stations, thermal springs and sanatorium-type infrastructure facilities in these areas was one of the main goals, which is one of the main factors that accelerates the development of those areas. Energy tourism is one of the types of tourism that has become more relevant in modern times due to the increasing attention to environmental sustainability and renewable energy sources. Around the world, regions with tourism potential are being developed based on renewable energy sources, and the interest of tourists in these areas is increasing. In this framework, Kalbajar region, located in the mountainous areas of Azerbaijan and known for its rich natural resources, can be developed as an important energy tourism center.

Kalbajar region has a strategic geographical position and vast natural resources. The mountainous terrain, rich water resources, thermal springs and favorable climate bring this region to the fore as a region with great potential both in the energy sector and in the field of tourism. In this article, the energy tourism potential of Kalbajar region will be investigated on scientific basis and development prospects in this field will be analyzed.

Kalbajar region is located in the west of the Republic of Azerbaijan, in the mountains of the Lesser Caucasus. It makes the region strategically and naturally rich in terms of geographical location. Let's note the main features:

- Borders: Kalbajar borders Dashkasan in the north, Gadabay and the Republic of Armenia in the west, Lachin in the south, and Aghdara in the east.
- Mountainous area: Most of the territory of Kalbajar is mountainous. Murovdag and Karabakh ridges are located in this region, which complicates the relief of the region and creates dense forests, rivers and mountain meadows in the area.
- Water resources: Kalbajar is also rich in water

resources. Tarterchay, Bazarchay and other small rivers pass through this area. The region is also famous for its natural springs, thermal waters and mineral waters.

- Climate: The climate of Kalbajar is different due to the mountainous terrain. The highlands have cool summers and cold winters, while the foothills have a milder climate.

Photo 1. Kalbajar-1 SHPP Potential and current situation of Small Hydropower Stations in Kalbajar district

In order to accelerate the transition to green energy, reduce the amount of carbon dioxide emitted into the atmosphere, conserve natural gas, and produce ecologically clean energy, complex works are being carried out by AzerEnergy in the liberated Kalbajar region as well as in many areas. Thus, at present, the construction of hydropower plants is underway in 4 places in the territory of Kalbajar region. The 4.3 megawatt "Zar", 8.8 megawatt "Nadirkhanli", 8.6 megawatt "Lower Veng" and 22.5 megawatt "Upper Veng" hydropower plants are planned to be commissioned in 2024.

It should also be noted that during the years 2020-2023, "Kalbajar-1", "Meydan", "Qamishli", "Chirag-1", "Chirag-2" and "Soyugbulag" small hydropower plants were rebuilt and put into operation with the participation of the President of the country Ilham Aliyev. In accordance with the settlement policy, more than 20 kalbajars have been provided permanent employment at these stations. Up to now, 6 small hydropower plants put into operation have produced nearly 70 million kilowatt hours of environmentally friendly green energy. It should be noted that due to the abundance of the current year and the high efficiency indicators of the installed turbines, the stations are currently working at their nominal capacity. The mentioned works are of particular importance in terms of increasing the energy tourism opportunities of these areas, as well as providing the population with sustainable energy, which is very important in terms of improving the social and economic situation.

Photo 2. Kalbajar mountain

Geography and Energy Potential of Kalbajar

Kalbajar region is located in the west of Azerbaijan, surrounded by the Murovdag range. The area is known for its high mountains, deep valleys

and various water bodies. These geographical features create favorable conditions for the development of energy potential in the region, especially hydropower and geothermal energy. The Tartar River and its tributaries located in the region are considered one of the main resources for hydropower projects. In addition, the region's rich geothermal waters, especially hot springs, are a potential source of thermal energy resources.

The temperature and mineral richness of Kalbajar's geothermal waters can be used as an important resource in the field of tourism. This is of great importance for both health tourism and energy tourism. The curative properties of geothermal waters attract local and foreign tourists and can contribute to the economic development of the region.

Hydropower Potential and Its Development in Tourism

Kalbajar region is one of the regions of Azerbaijan that receives the most precipitation. For this reason, rivers and lakes create high hydropower potential in the region. There are favorable conditions for the construction of small and medium-sized hydroelectric power stations in the region. These stations operate on the basis of renewable energy sources and can develop tourism related to ecologically clean energy production.

Tourism activities have developed widely in regions with hydropower centers in the world. Especially in countries like Norway, Sweden, and Iceland, hydroelectric power stations have become attractive objects for tourists. Kalbajar region can benefit from this experience and invest in hydroelectric power station tourism. Thus, by following the energy production process at these stations, tourists can get information about renewable energy technologies and be educated in this field.

Geothermal Energy and Thermal Tourism

Thermal springs are one of the most important energy resources of Kalbajar. "Istisu" spring in particular is famous for its healing properties and is popular among both local people and foreign tourists. Thermal water sources are a very important element for the development of the energy tourism potential of the region. Thermal tourism is usually developed together with health tourism, and it is of great importance both economically and socially.

In addition, the springs and thermal waters in Kalbajar district also have curative properties, which are considered to be factors that create the basis for the expansion of tourism opportunities in the area. Thus, the main therapeutic properties of thermal waters of Kalbajar are:

1. Rheumatism and joint diseases: Hot waters are used in the treatment of joint problems and rheumatism. These waters have an anti-inflammatory effect and help reduce pain.
2. Nervous system: The thermal waters of Kalbajar have a positive effect on the elimination of nervous system problems. It helps to reduce stress, treat problems like insomnia and nervousness.
3. Skin diseases: Hot springs are beneficial for skin health. It is used to treat various skin diseases and clean the skin.
4. Improve digestion: Kalbajar mineral waters have a positive effect on the digestive system and are useful in eliminating gastrointestinal problems.
5. Cardiovascular system: Thermal waters are also used to improve the functioning of the cardiovascular system, stimulate blood circulation and regulate high blood pressure.

These healing waters in Kalbajar contain various minerals, which further enhances their beneficial effects.

In the framework of geothermal energy tourism, tourists can learn how this energy is produced and used, in addition to taking advantage of the services related to healing waters in thermal centers. Modern spa and sanatorium centers to be built on thermal water sources can create a great attraction for both local residents and tourists. Geothermal energy can also be used for the purpose of energy supply and directed to the production of ecologically clean energy.

Kalbajar region has a great potential for mountain tourism with its rich nature, mountainous relief and healing waters. Mountain tourism opportunities of the region are suitable for various types of activities. These possibilities can be mentioned as follows:

Hiking: Kalbajar's mountainous areas and dense forests create perfect conditions for hiking. Those who walk along the mountain roads, valleys and river banks can enjoy the beauty of nature and discover unique landscapes. The Murovdag range and other mountains are ideal places for hiking.

Climbing mountains for mountaineers: High altitude mountains provide ideal conditions for mountaineers. Peaks like Murovdag are a tempting choice for experienced climbers. There are also routes of different difficulty levels for climbers.

Winter sports: Skiing and other winter sports are available in mountainous areas due to snow cover during winter months. In the future, infrastructure development in this area has the potential to turn Kalbajar into ski centers.

Natural springs and hot springs: Kalbajar's healing springs and thermal waters can be combined with both health tourism and mountain tourism. During walks and climbs, tourists can enjoy the benefits of healing waters. The springs located in

Istisu settlement are especially famous.

Camping and nature walks: The natural landscapes and mountain meadows in Kalbajar are ideal places for camping. Lake shores, riverbeds and mountains provide tourists with wonderful camping and spending time with nature. The clean and fresh air of Kalbajar makes this activity even more attractive.

Photography tours: Kalbajar's mountainous landscapes, forests, rivers and springs are of great interest to photographers. The natural beauty of this region, especially the misty mountain peaks and magnificent sunset views, offer unforgettable moments to tourists.

Ecotourism: The preservation of the natural environment of Kalbajar creates ample opportunities for ecotourism. Tourists can get acquainted with flora and fauna and observe wildlife in nature parks and protected areas here.

Historical and cultural tours: Although almost all the objects of Kalbajar were completely destroyed during the occupation, but now they are being restored. Kalbajar's 100s of historical monuments, especially rock carvings and ancient settlements, offer cultural tours to tourists. Mountain tourism can be combined with historical and cultural heritage exploration to provide a richer experience.Kəlbəcər dağ turizmi üçün həm möhtəşəm təbii şərtlərə, həm də müalicəvi xüsusiyyətlərə malikdir. Bu turizm potensialının inkişaf etdirilməsi bölgəyə böyük sayda yerli və xarici turist cəlb edə bilər.

The natural landscape and climate of Kalbajar make it a suitable region for mountain tourism. Mountain tourism can be developed as both adventure and ecotourism. Besides, Kalbajar's energy potential adds value to this tourism area. Thus, tourists can visit hydroelectric power stations and geothermal energy sources during mountain walks and closely monitor the energy production process in these facilities.

Demonstrating renewable energy technologies and providing tourists with practical knowledge in this field also has a positive effect on the development of ecological tourism. Tourists who pay attention to environmental protection on a global scale show great interest in such routes. Kalbajar region can also offer training and excursions to tourists using its renewable energy sources.

A number of strategic steps should be taken to develop the energy tourism potential of Kalbajar region. First of all, comprehensive research on the energy resources of the region should be conducted and specific projects related to the use of these resources in the field of tourism should be prepared. Within the framework of these projects, tourism infrastructure should be developed on hydropower stations and geothermal sources.

Additionally, Kalbajar's energy tourism routes should be promoted internationally. For this purpose, Kalbajar's energy tourism potential should be communicated to the world community through tourism exhibitions, international conferences and media platforms. This will be an important step for attracting both tourist flow and investment to the region.

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Role of rural areas in development of international tourism

Safar Purhani, Rasim Abbasov
"Tourism and Field Economy" department of Western Caspian University, Baku/Azerbaijan

Abstract:
The article examines the importance of rural areas in the development of various types of tourism, mainly recreational, the direction of development of ski tourism in the world, potential tourism resources in rural areas of our country, and also examines the relevant regulatory measures taken in the direction of tourism development in the modern era.
Key words: international tourism, traveler, mountain tourism, recreation areas, cave tourism, economic resources, tourist resources

Humanity is constantly moving due to the influence of material and spiritual needs, historical and geographical factors. Groups of people living in caves and other natural shelters, from the time of exploitation economy, when primary agricultural activities and handicrafts were born, constantly moved and made small and large journeys. objects" can be considered. The processes of people's displacement continued even when the tribes grew and turned into tribes due to the increase in the number of people and other reasons, when people came down from the mountains and created an ancient urban civilization in the plains.

In ancient times, in interstate relations, communication was regulated through messengers, which started the process of creating journeys in the diplomatic field. After agriculture and animal husbandry, the emergence of crafts and trade further expanded the geography of ancient journeys. Merchants organized economic journeys to other provinces individually and then united in certain groups. As a result, the main trade route between East and West, especially for specific caravans trading in various commodities, was Ancient Silk. On the second stage of the road, tourist facilities, caravanserais began to appear. Guest houses, caravanserais, and taverns, which can be considered objects for tourism, began to be built on long trade routes. In the beginning, such facilities, which were mainly intended for overnight stays, later provided food for travelers, entertainment with the participation of musicians, and feeding, cleaning, and other services for the animals that were considered the main transport in the caravan.

For years, there has been an increase in people going on pilgrimages due to their religious beliefs. With such issues, the construction of caravanserais, which today are considered the ancestors of tourist accommodation facilities in the modern world, existed even before feudalism.

For the first time, the Phoenicians traveled by sea and established colonies in Carthage, in northern Africa.

Since the expansion of the scale and types of travel, there were factors that interested travelers and had an important impact on international tourism. As we know, the time factor has had a significant impact on international tourism since the time when the scale and types of travel expanded. As we know, the time factor is of particular importance. Time is a gift given to people and it is beneficial to use it properly. People spend part of their time for rest. The time factor plays a special role in international tourism. Regardless of whether they work in any field or have their own business, people spend a significant part of their lives at work. Other hours are spent traveling, communicating with relatives, friends, feeding and other issues. However, after a certain time, in order to restore the fatigue and lost biological and psychological energy related to this standard lifestyle, at least internal tours to nearby areas or traveling by private car become one of the main plans of people - potential tourists. Of course, here people already want to go on vacation at the expense of free time, weekend vacation or personal leave.

In all cases, the time factor plays an important role in all segments of demand in the tourism market. These times can last from several hours to several months. The second is the material factor that parallels time. Of course, the budget plays an important role here and the potential tourist allocates a certain part of the budget to the travel plan that he will carry out alone with friends, in a group or with family. Here, too, travelers can be divided into three groups: those with low budgets, middle-income customers, and high-income customers. People with

low incomes prefer economical turnips. At this time, although the quality factor is somewhat interesting, the price factor is mainly preferred, and additional services are not so interesting. For example, low-budget tourists are not so interested when an additional and, of course, voluntary service is offered for the use of cable cars or skis in a recreational tour package. Middle-income customers are more inclined to products that match the tour packages required by customers with a higher budget, but the price factor is also somewhat interesting for them. In high-income customers, the demand is usually based on quality and they prefer higher quality and branded products.

In many countries, tourism is called a phenomenon of the 20th century. Today, thanks to modern techniques and technology, it is possible to travel anywhere in the world. In the last 30 years, tourism has become a demand of people. According to the calculations of the World Tourism Organization, the worldwide tourism income in 2000 was 500 billion, in 2004 it was 600 billion, in 2009 it was 850 billion, in 2013 it was 1 trillion, and in 2017 it was 1.3 trillion. , and 1.6 trillion in 2019. was more than dollars. Tourism is the most productive and dynamic sector of the economy. Currently, more than 250 million workers work in the field of tourism. Tourism accounts for 7% of total investment, 11% of consumer spending, 5% of all tax revenues, and 33% of world trade in services.[1]

International tourism developed rapidly in the 20th century. This issue is closely related to the socio-economic demographic situation in the world. Especially after the Second World War, the reconstruction of Europe, the liberation of a number of countries from colonialism and the change in the political map of the world are mainly

Tourism is also developing rapidly in the era of industrial development, Scientific-Technical Progress and the age of information technologies that we are currently living in. In modern times, there are rich resources for the development of rural tourism along with these and other types of tourism in our country. But the rate of development of rural tourism does not correspond to the available opportunities. For the development of rural tourism in the regions, the study of practical measures of countries with extensive experience in this field is of great importance. In current practice, rural recreational tourism plays an important role in overall macroeconomic socio-cultural development. The difference of rural tourism from others is that the essential needs for travelers are sought in the village. Agrotourism enterprises and centers for mountain-skiing extreme sports tourism are created in the areas suitable for recreation. Travelers come here with a tourism product-tour package (transport, tourist accommodation facilities, comfort, nutrition, necessary equipment (sports), cultural and entertainment programs, etc. are provided). At the same time, tourists are given the opportunity to observe nature, go on walks, eat ecologically clean agricultural products, and then buy these products. Conditions are created for familiarization with natural resources. Voluntary participation in the preparation of national dishes in various agricultural works and other opportunities are created based on requests.

• The main indicators of rural tourism are that it increases the opportunities of farmers and family farms in rural areas by using animal husbandry and crop production and other resources and accelerates the economic cycle in the region, and at the same time, it helps to automatically advertise recreation areas in rural areas. This plays an important role in agrotourism enterprises receiving more tourists in the next period. Agritourism is a form of niche tourism that is considered a growth industry in many parts of the world, including Australia, the United States and the European region.

• Different models are used around the world to accommodate tourists in agrotourism. For example: in Italy, the preference is given to accommodation of agro-tourists in a separate room, in a rural hotel, in a private rural house, or in a historical building. In English-speaking countries - Great Britain, the USA, Canada, Australia, New Zealand and Scandinavian countries, agro-tourists prefer to be accommodated in guest houses, boarding houses, and small houses. Such places are in the heart of nature in villages.

• Niche tourism is a special type of tourism focused on a certain concept or topic, or niche tourism as a specialized type of tourism involves more segmented tourism activities. Niche tourism has many types and includes adventure tourism, film location tourism, heritage tourism, art tourism, wine tourism, golf tourism, nature tourism, trekking, etc. It plays an important role in the promotion of its traditions and cultural heritage, has a positive effect on other areas of the region's economy, and provides recreational recreation for tourists. Thus, among the population living in megacities, there are many people who want to experience nostalgic feelings by going to the region where they lived before, or to meet relatives, especially elderly people in the region. Such people often want to go to the regions on days off or vacations, to get away from the city crowd and avoid the noise. . Although agrotourism is very similar to rural tourism, there are differences in agrotourism, such as staying more in farms and doing agricultural work voluntarily, but they are still closely related fields. Like other sectors of the tourism industry, agritourism has certain benefits for

farmers, villages/communities and the tourism sector. Here are some of them

Agrotourism promotes the development of socio-economic and cross-cultural integration opportunities of agricultural enterprises and peasant farms;

- Tourist flows create conditions for the region's population to be provided with new jobs;
- It plays an important role in more efficient use of the natural, economic and cultural potential of rural areas;
- It paves the way for rapid development of service areas;
- Makes an important contribution to increasing the use of agricultural opportunities;
- Creates conditions for protection of ecological balance;
- It plays an important role in the development of international cultural relations;
- Plays an exceptional role in the development and promotion of traditional production/craft areas;
- It helps to preserve the traditions of national cuisine, especially the culinary cultures of individual regions (slow food);
- Contributes to historical and cultural recognition in the regions;
- Supports the creation of a new segment in the tourism market - rural tourism service consumers;
- Ensures the diversification of regional tourism services;
- By renting out houses and rooms in rural areas, it creates additional income for the rural population, which has a positive economic impact on other areas as a chain process in the economy.
- Acquaintance of foreign tourists with national traditions of rural areas
- Organization of sports, especially mountain-skiing, mountain bike races and combined tours of extreme environmental and awareness species, including living in a village house for a few days and eating ecologically clean products;

In rural tourism, at the same time as living in rural areas, there are expectations such as hunting and fishing with special permits at permitted times and places, organizing picnics in nature, spending time efficiently, especially for families with children, and children learning/understanding nature while having fun.

As we know, structural changes have taken place in the tourism market of developed countries since the end of the 20th century. Over time, people prefer active recreation, and as a result, tourism combines different types of sports. The development of extreme tourism is closely related to the history of these sports. Although there are certain risks and dangers in extreme tourism, it ultimately means a mysterious vacation. Mountain types of extreme tourism include alpinism, speletourism, ice and rock climbing, mountain biking, mountain skiing and snowboarding. Countries where mountain-ski tourism is developing: First of all, let's start with Austria, which is considered the homeland of mountain tourism. The season here starts in December and lasts until the end of May. It is not surprising that Austria is the center of skiing tourism in Europe. Small restaurants made of wood and delicious cuisine on the terrace, night entertainment are part of the program.

Part of the skiing tourism in Norway is located in Lapland. However, due to the fact that the roads are not very wide, it is weak in terms of tourist attraction. Ore, which includes four zones of the region, is distinguished by its historical past. Ore-by, Ore-borner, Duved, Türgefel and Edsdalland are distinguished by their numerous resorts, winter parks, hotels and restaurants for people who like to ski. Although the funicular from the center to Ore-byu was built 100 years ago, it is still active. In Italy, the season starts in December and the prices vary according to the hotels you choose, just like in France. As the mountain-ski tourism zones in Italy are neighbors with France, Switzerland and Slovenia, no one knows where the borders end, and you can easily cross the territory of other countries [2].

The foundations of the development of international tourism in our country were laid in 1994 with the successful oil strategy, which was called the contract of the century due to its importance. It is not accidental that experts generally indicate the development of industry as one of the main factors in the development of tourism. so that industrial development has a strong effect on aggregate demand. The successful oil strategy, which laid the foundation for the oil industry in our country and the overall economic development of independent Azerbaijan, had a very effective impact on business tourism. Against the background of the improvement of the business environment, the interest of transnational corporations of developed countries in our country has increased, and business tourism has begun to develop rapidly. As a result of this, existing tourism zones have been developed in the capital Baku and the surrounding areas of Baku since that period. This also meant the development of the hospitality industry. Restoration of hotels from the Soviet era in our country along with new hotels and hostels were built and put into use.

When the statistical analysis of tourism in Azerbaijan for 2017-2021 is examined on the basis of the official data of the State Statistics Committee, positive dynamics are observed in general indicators.

It is known that the pandemic has hit tourism all over the world. These problems did not escape our country either, and as a result, a sharp decrease in travel and the closing of land borders resulted in a decrease in indicators in tourism in general. For this reason, precisely from the end of 2019 to the end of the first quarter of 2021, problems have arisen in the field of tourism.

Main indicators in the field of tourism

years	2017	2018	2019	2020	2021
Number of employees working in fields typical for tourism, people	46837	53222	58972	49019	53717
Volume of additional value created in areas typical for tourism, million manats	3151,0	3464,3	3704,9	1386,7	2062,6
The specific weight of added value created in areas characteristic for tourism in the gross domestic product of the country, in percentage	4,5	4,3	4,5	1,9	2,2
The volume of investments made in areas typical for tourism, million manats	267,3	229,7	133,7	79,3	242,4
Tourist reception and dispatch					
Number of received and sent tourists, people	77587	83722	99507	8205	16324
including:					
accepted	13455	12777	30950	2304	1848
sent	64132	70945	68557	5901	14476

Source: State Statistics Committee

In the pre-pandemic period, appropriate measures for the development of tourism led to the rapid development of this field.

In 2012, the Eurovision-2012 song contest was held in "Baku Crystal Hall", which can be compared with famous concert halls. In "Baku Kristall Hall" concert program of world-famous singers with millions of followers was also held. The holding of these concerts stimulated the arrival of foreign guests to our country, especially to the capital and tourist areas close to the capital. European Games in 2015 in Baku was organized and 600,000 tickets were sold [3].

Since 2016, international level sports competitions - formula-1 European Grand Prix have been held in our country. In 2017, the city of Baku hosted another famous sports competition - the Islamic Games. All these factors have repeatedly increased the number of tourists visiting Azerbaijan. Preparations for all these important international events have already started. Thus, it would be impossible to carry out such important measures without establishing the relevant infrastructure.

In this direction, within the framework of state regulation measures, such as Baku, Sumgayit, Ganja In big cities, cultural and historical tourism facilities, restored new modern bridges, stadiums, concert halls, business centers and 3, 4, 5 star hotels are operating. In the direction of the development of tourism in the regions, the development plans of individual cities were prepared, and starting from 2004, the state programs for the socio-economic development of the regions are of special importance.

Specialized tourism and entertainment have been identified as one of the "main directions of the strategic road map for the main sectors of the national economy and the economy", approved by the Order No. 1897 of the President of the Republic of Azerbaijan dated March 16, 2016, together with international and local experts from around the world. In his experience, the most successful models of reforms in the field of tourism and the possibilities of their application in our country were analyzed. As a result of the conducted analyses, the initial draft of the strategic road map in the field of tourism was prepared. In the Decree of the President of the Republic of Azerbaijan on additional measures related to the development of tourism in the Republic of Azerbaijan, it is stated that the General Development Plans of Khizi-Khachmaz, Guba and Gusar tourism and recreation zones should be prepared and approved and their passports should be registered with the state. In the draft of the state budget of the Republic of Azerbaijan for 2017 and the following years, based on the application of the State Tourism Agency of the Republic of Azerbaijan, ensure that the funds required for the holding of trade festivals ("shopping festival") are provided.

During the pandemic, providing one-off state aid to economic sectors prevented the mass reduction of jobs and prevented these business entities suffering from the pandemic from going completely bankrupt. Thus, the Ministry of Economy brought the following to the attention of taxpayers regarding the payment of a certain part of the wages of wage workers working in the areas affected by the

pandemic and the provision of financial support to individual (micro) entrepreneurs at the initial stage:

In order to prevent the reduction of the number of workplaces in the areas affected by the pandemic, within the framework of the mechanism of payment of a certain part of the wages of employees working under an employment contract:

This measure envisages the provision of financial support of 215 million manats by the state to entrepreneurs in order to pay a certain part of the salaries of 300,000 wage workers (who have labor contracts) working in the fields of activity and clusters affected by the pandemic. Within the framework of this mechanism, on the basis of the applications submitted by taxpayers through their electronic offices available in the Internet Tax Administration (www.e-taxes.gov.az), a certain part of the wages and the corresponding social insurance fees to be paid to their employees in a short period of time will be paid by the employers. it is planned to be transferred to bank accounts.[4]

One of the main factors in the development of international tourism in our country is the creation of tourist accommodation facilities in the regions. In the regions of our country, an important action plan has been prepared in the direction of building and commissioning of two- and three-star hotels and hostels. Appropriate regulatory decisions have been made for the construction and operation of hostels and low-star category hotels mainly in the regions. The government of Azerbaijan aims to create the most suitable conditions for the development of tourism by attracting investments to the country and simplifying state inspections. "Issuance of ITS is based on the following criteria:

Ø The area of economic activity where the investment is made;

Ø the investment project should be related to the construction of two- and three-star hotels and hostels.

Ø Minimum amount related to the volume of the investment project;

Total investment amount for hostels

AZN should be in the amount of 2,000,000 AZN for two-star and three-star hotels. The minimum invested amount should be 100,000 AZN for hostels, and 2,000,000 AZN for two-star and three-star hotels.

Criteria for administrative territorial units where the investment project will be implemented.

- The investment project should be considered in districts and cities, except for Baku, settlements around Baku, Absheron, Sumgait and Ganja.

"Investment Promotion Document" is presented by the Ministry of Economy. In order to receive the document, the entrepreneur must submit the following documents together with the application:

Ø a copy of the certificate of registration as a taxpayer;

Ø a document confirming that 10% of the intended amount has been invested in the project;

Ø a business plan that fully meets the following criteria.

Owners of the "Investment Promotion Document" can benefit from tax and customs benefits for a period of 7 years. According to the decision of the Cabinet of Ministers of the Republic of Azerbaijan, if it is not possible to meet the needs of local raw materials and textiles, the imported goods are exempted from customs duty if investment projects related to tourism are implemented in mountainous areas located at an altitude of 1300 meters above sea level. . Provided that it is not possible to meet the current needs to implement the project at the expense of local raw materials and materials [5].

In the post-pandemic period, one of the relevant decisions taken in the direction of the redevelopment of tourism starting from 2021 was the development of a new draft law on tourism. On December 27, 2021, the Law of the Republic of Azerbaijan on Tourism defines important issues such as the main directions of the state policy in the field of tourism, the duties of the state in the field of tourism, improving the quality of service in the tourism industry, the rights and duties of tourists, the safety of tourists, and the general conditions of using tourism resources. .

In the post-pandemic period, the issue of effective use of the existing tourism potential in the territories freed from occupation is also of particular importance. Thus, the rapid construction of infrastructure in the Karabakh economic region, the establishment of "Smart villages" with the application of the most modern elements of information technologies, the burning and destruction of our cities, villages, settlements by Armenian vandals, and the city of Aghdam, which was turned into a 21st-century hero by Armenians. Reconstruction works are being carried out according to modern standards. The most modern roads and bridges are built according to standards. Transport infrastructure, which is one of the main areas in tourism, is being rapidly restored. In 2021, with the participation of Mr. President Ilham Aliyev and the brotherly President of the Republic of Turkey, Mr. Recep Tayyip Erdogan, the ceremonial opening of the Fizuli airport, which meets the most modern requirements, and of the Zangilan airport in October 2022 was held. . Modern hotels were built in Shusha, one of the cultural centers of the Turkic world, and relevant concerts and events were held.

In addition to business cultural-historical tourism, there are great prospects for the

development of recreational tourism in the Karabakh region. The development of speleotourism (cave tourism) is also possible here. The famous Azikh cave in the Guruchay Valley, which is one of the oldest settlements in the world and where the great ancestors of the Azerbaijani people lived, is located in the Karabakh territory.

The result

During the conducted investigations, it was determined that tourist accommodation facilities according to modern standards are used in the capital and other big cities. There are potential tourism resources in the regions of our country, especially in rural areas, and there are fertile conditions for building and renting hostels and rural houses suitable for tourism. Thus, the measures related to the development of individual cities and the state programs related to the Socio-economic Development of Regions since 2004, the new draft law on Tourism in the post-pandemic period, international cultural and social sports events, which are especially important in international tourism, international the holding of conferences, the launching of airports that meet new modern standards, the rapid construction works carried out in various regions, especially in the Karabakh region, have created a solid foundation for the development of rural tourism. there are favorable natural and geographical conditions.

In our country, state regulation measures are being successfully continued in the direction of the development of recreational tourist types. Accommodating tourists, reforms in the transport and food sectors, as well as facilitating the process of document circulation (notary, visa, translation, etc.) will have a positive impact on both inbound and outbound tourism. After the commissioning of intercity highways, the processes of beautification of areas with tourism potential, repair of intra-district and rural roads in accordance with modern standards are being successfully continued.

In world experience, the introduction of subsidies to the tourism sector is implemented as a regulatory measure. There are different types of subsidies. In some countries, businessmen who build hotels are paid per room. In our country, it is planned to introduce subsidies in the tourism sector [6].

Research suggests that regional tourism in our country has entered a new path of development. Through regulatory measures, this field will develop further and conditions have been created for more effective use of the potential opportunities in this field.

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Kənd ərazilərinin beynəlxalq turizmin inkişafında rolu

Səfər Pürhani, Rasim Abbasov

Qərbi Kaspi Universiteti, “Turizm və sahələr iqtisadiyyatı” kafedrası

Xülasə

Məqalədə kənd ərazilərinin, əsasən rekreasiya tipli olmaqla müxtəlif turizm növlərinin inkişafında əhəmiyyəti, dünyada dağ-xizək turizminin inkişaf istiqamətləri, ölkəmizdə kənd ərazilərində turizmin potensial resursları, müasir dövrdə turizmin inkişafı istiqamətində görülən müvafiq tənzimləyici tədbirlər araşdırılmışdır.

Açar sözlər: *beynəlxalq turizm, səyyah,dağ turizmi ,rekreasiya zonaları,mağara turizmi,iqtisadi resurslar,turizm resurları.*

Роль сельской местности в развитии международного туризма

Сафар Пурхани, Расим Аббасов

Кафедра «Туризм и отраслевая экономика», Западно-Каспийский университет

Резюме:

В статье рассмотрено значение сельской местности в развитии различных видов туризма, преимущественно рекреационного типа, направления развития горнолыжного туризма в мире, потенциальные ресурсы туризма в сельской местности нашей страны, а также рассмотрены соответствующие меры регулирования, принимаемые в направлении развития туризма в современную эпоху.

Ключевые слова: международный туризм, путешественник, горный туризм, зоны отдыха, пещерный туризм, экономические ресурсы, туристические ресурсы

Alternative tourism concept and study of the potential of wine tourism in Azerbaijan

S.H.Pürhani, İ.N.Hüseynli

Western Caspian University

The concept of wine tourism

Wine tourism, or wine tourism, is a type of tourism that involves traveling to regions famous for wine production. This type of tourism offers visitors the opportunity to get up close and personal with wine production processes, visit vineyards and wineries, and taste local wines. Wine tourism also gives tourists the chance to learn about the culture and history of wine, experience winemaking first-hand, and discover the intricacies of this craft. Wine tourism is especially popular among travelers because the experience combines knowledge and cultural richness with relaxation and entertainment in a comfortable environment. This type of tourism is usually enriched with wine festivals and other local events, which allow tourists to have more colorful and interesting experiences.

Table 1. Wine Tourism Regions and Characteristics

Region	Country	Features
Napa Valley	USA	High-quality wines, luxury hotels, scenic roads
Bordeaux	France	World famous wine gardens, historic wine houses
Tuscany	Italy	Rustic wineries, traditional Italian cuisine
Barossa Valley	Australia	Unique Shiraz wines, cultural events
Mendoza	Argentina	In the foothills of the Andes, a variety of Malbec wines
Cape Winelands	South Africa	Beautiful views, Pinotage and Chenin Blanc wines
Douro Valley	Portugal	The world's oldest wine regions, the famous Port wine

Table 1 may be useful for wine lovers to explore wine tourism experiences in different parts of the world. The variety of wines and cultural richness that each region has to offer makes this type of travel even more attractive.

Potential of enotourism related to geographical and climatic features of Azerbaijan

Azerbaijan is known for its rich geographical and climatic features, and these features create a favorable environment for enotourism, that is, wine tourism. Different climatic zones, soil types and geographical regions of the country allow the cultivation of unique grape varieties, which can be considered as a country with an ancient and rich history of wine production. The wine tourism sector of Azerbaijan plays an important role in the integration of tourism and wine industry of the country. This integration creates a favorable environment for both sectors to create synergies and maximize their economic benefits. In parallel with the development of the wine industry, innovations and investments are also increasing in the tourism sector, which helps to enrich the tourism offer of the country in general. [Amanov M.V., Valiyev M.I., Aliyeva M.Z, 1996]

Shamakhi, Ismayilli, Gabala and Tovuz regions are among the regions that play the main role in the wine production of Azerbaijan. Both local grape varieties and international varieties are grown in these regions. For example, in Shamakhi and Ismayilli regions, more concentrated and intense tasting wines are obtained from grapes grown in continental climate. Tovuz and other western regions create ideal conditions for sour and fresh wines due to their cooler climate. At the same time, Azerbaijan is also strengthening its international relations in order to further expand wine tourism. Collaborations, joint projects and knowledge exchange programs are carried out with world winemaking leaders. Such activities help local wine producers learn from international experiences and increase the competitiveness of Azerbaijani wine in the world market. [Amanov M.V, 1995]

Azerbaijan's wine tourism sector is developing as

a new and dynamic field in the country's tourism portfolio. The statistics show how the sector has expanded in the last few years and how it has recovered after the pandemic period. The area of vineyards is constantly increasing, which leads to an increase in the volume of wine production. The increase in production volume plays an important role both in meeting the demand of the domestic market and in increasing export opportunities.

Table 3. Basic data and trends related to the wine tourism sector of Azerbaijan

Indicator	2019	2020	2021	2022	Disclosure
Total area of vineyards (hectares)	8,000	8,200	8,400	8,600	Expansion of vineyards in Azerbaijan.
Wine production (thousand liters)	10,500	9,800	11,000	12,500	The change in production volume reflects the impact of the pandemic.
The number of tourists visiting wine tourism	120,000	80,000	150,000	180,000	The increase in the number of tourists shows the revival of the sector after the pandemic.
Export of wine (thousand dollars)	1,200	1,000	1,300	1,500	The increase in wine exports shows the popularity of the product in international markets.

Azerbaijan's wine tourism sector stands out with its potential for sustainable development in the field of wine production and tourism. This development, in addition to contributing to the country's economy, strengthens its position in the field of world winemaking culture. [Jabbarov S.F, 2019]

Positive changes in wine production, especially the sharp increase in wine production in 2021 and 2022, show how the country's wine industry is developing technologically and methodologically. At the same time, the promotion of Azerbaijani wines in international markets and the increase in export volumes open up new opportunities for wine producers of the country to enter wider markets. The wine tourism sector of Azerbaijan is an area that enriches the tourism portfolio of the country and is an important support for its economic development. The continuous development of this field strengthens the position of Azerbaijan in the world tourism scene and makes the country more competitive in the global tourism market. [Aghayeva Z.M., Panahov T.M., Nuraddinova H.R, 2010]

Azerbaijan's wine tourism sector plays an important role in promoting cultural and historical values. Visits to wine gardens organized for tourists, live demonstration of product production processes, promotion of grape varieties with deep cultural roots make this type of tourism even more interesting and educational. The activity of wine gardens also contributes to the economic development of the regions, increases the employment of the local population and brings new job opportunities to the regions. [Amanov M.V, 1999]

Azerbaijan's wine tourism sector enriches the country's tourism portfolio from both cultural and economic points of view, making important contributions to the future development of tourism and winemaking industries. The development of this sector has a positive effect on the country's economy and makes Azerbaijan even more prominent in the world tourism and winemaking market. [Amanov M.V, 2001]

Historical and cultural significance of grape and wine production in Azerbaijan

Azerbaijan is a country known for its deep history of grape growing and wine production. Archeological findings show that the history of grape cultivation and wine production in Azerbaijan dates back to the Neolithic period, about 7000 years ago. These findings provide strong evidence that the Caucasus is the cradle of wine production in the world. [Mammadov E.Q, 2013]

Vineyards are widespread in different regions of Azerbaijan, especially in regions such as Shamakhi, Ismayilli and Tovuz. These regions are known for their unique climatic conditions and soil composition, which allows for the development of the unique taste and aroma of the grape varieties grown in those regions. [Abdulaliyeva S.Ş, 2017]

There are many well-known names among wine producers operating in Azerbaijan. These include established wineries such as Ganja Sharab, as well as newer but rapidly gaining customers such as Fireland Vineyards and Savalan. These producers offer a wide range of wines to local and international customers [HUSEYNOV, EFENDİYEVA, 2007]

Wine tourism also plays an important role in strengthening the foreign image of Azerbaijan. The opening of wine gardens and production areas to tourists acts as a platform to promote the country's cultural and historical wealth to the world. This contributes to the recognition of Azerbaijan in the international tourism markets and increases the income of the tourism sector. [Agayeva C.T, 2016]

Strategies and policies for the development of wine tourism in Azerbaijan

Azerbaijan is adopting various strategies and policies to fully utilize the potential of wine tourism. The country aims to create an attractive destination for both domestic and international tourists by promoting the integration of the winemaking and tourism industries. These strategies are carefully designed to improve the quality of wine production, develop tourism infrastructure, and preserve and promote the cultural heritage of Azerbaijan. [Bilalov, 2005]

The government of Azerbaijan is modernizing roads, transport and communication infrastructure to facilitate the wine tourism experience. This makes it easier to visit the wineries and production facilities. Also, the establishment of tourism information centers and recreation areas aims to provide tourists with a more complete and comfortable travel experience. Azerbaijan's wine regions, including Ganja-Gazakh, Shabran-Khachmaz and Ismayilli, have different terrains and microclimates that support the cultivation of different grape varieties. This variety allows visitors to discover the unique taste and characteristics of Azerbaijani wines. Varieties such as Madrasa, Bayanshira and Saperavi are a few examples that demonstrate the country's rich viticultural heritage.

Azerbaijan offers various education and training programs to increase wine knowledge among the local population and tourism workers. These programs include courses in winemaking techniques, customer service and tourism management. The goal is to provide high-level service to tourists by increasing the professionalism of those working in the sector.

Marketing campaigns are being conducted locally and internationally to widely promote the country's tourism and wine production potential. These campaigns are carried out through social media, tourism fairs, as well as international wine competitions and festivals. The aim of the campaigns is to establish Azerbaijan as a world-renowned wine tourism destination.

The government of Azerbaijan supports wine producers and tourism organizations financially and legally. This support can be in the form of tax breaks, subsidies and loans for small and medium enterprises. These measures contribute to faster development of the sector and investment attraction.

Sustainability, social impacts and perspectives of wine tourism in Azerbaijan.

Wine tourism in Azerbaijan has had important social effects on the country's culture, economy and society. Wine tourism has helped showcase and celebrate this heritage, which is important for cultural preservation.

Wine tourism has had an important impact on the economy of Azerbaijan by contributing to both regional and national development. The establishment and development of wineries, vineyards and related infrastructure created jobs, reduced unemployment and increased income levels in rural areas. This, in turn, improved the living conditions of the local population (Abbasov V.Q. 2009, p. 59).

The development of wine tourism in Azerbaijan has stimulated the development of significant infrastructure in regions known for vineyards and wineries.

Conclusıon

Wine tourism, also known as enotourism, has grown significantly in popularity in recent years as travelers seek immersive experiences that combine culture, history and gastronomy. With its rich winemaking heritage and diverse landscapes, Azerbaijan has the potential to become an outstanding wine tourism destination. In this study, we discussed various aspects of the development of wine tourism in Azerbaijan, including its historical background, current situation, challenges, strategies and prospects. Finally, we will summarize the main findings and make suggestions for the successful development of wine tourism in the country.

Azerbaijan has a long and multi-year history of winemaking, which goes back to ancient civilizations thousands of years ago. Despite the periods of decline during the Soviet rule and the war years, the wine industry in Azerbaijan has made significant progress in recent years. The country has different grape varieties, different winemaking traditions, modern vineyards and wineries. However, there is still untapped potential in terms of introducing Azerbaijani wines to the world.

A comprehensive marketing campaign targeting both domestic and international tourists should highlight Azerbaijan's winemaking history, cultural richness and unique wine experiences;

Cooperation between the government and the private sector should focus on improving roads, transport options and developing wine-related infrastructure;

Ensuring the quality of Azerbaijani wines is the main issue. Winemakers must strive for excellence, and certification systems can help maintain high standards;

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Investigating the possibilities of efficient use of alternative energy potential in the territories of Karabakh

Sulduz Salimov[1], Gulnara Mammadova [2]

[1]Institute of Economics of the Ministry of Science and Education of the Republic of Azerbaijan,
[2]Western Caspian University, Baku, Azerbaijan

Abstract. Economically efficient use of renewable energy potential in the Republic of Azerbaijan, application of "Green energy zone" concepts in the direction of combating climate change constitute the content of the presented project.
The main goal of the project is to determine the general direction of action for the sustainable development of our country, to adopt a completely different approach to scientific and research work with the adoption of "green" technologies in the direction of application of renewable energy in all areas of the economy.
In order to more effectively use the potential of renewable energy types in the Republic, the scientific idea of the project is to investigate and evaluate the possibilities of applying the relevant innovative technologies, taking into account the existing potential of the regions, and to prioritize a completely different approach to the scientific-research works to be carried out in this direction.
As the main condition for increasing the indicators of the sustainable development strategy of the Republic of Azerbaijan, providing energy security, as well as putting forward practical suggestions and recommendations in the direction of economically efficient use of renewable energy resources with the application of modern innovative technologies are evaluated as the results of the project.
The scientific and practical significance of the project is that the results obtained in the field of renewable energy with the application of innovative technologies can be used in the development of long-term sustainable development goals of the Republic of Azerbaijan.
Keywords: sustainable development; innovative technologies; environment; green economy; green energy; green technologies.

Introduction

The purpose of the project is to investigate the possibilities of applying innovative technologies and develop proposals, taking into account the natural and geographical conditions of the regions, in order to use the potential of renewable energy types in the Republic of Azerbaijan more efficiently. In order to achieve the goal set within the framework of the project, it is planned to solve the issues in the following directions: investigation of the natural potential of using solar energy in the lowlands of the republic and carrying out an appropriate assessment; investigation of the existing potential for wind energy in the coastal areas and conducting an appropriate assessment; Investigating the possibilities of meeting the energy needs of small and medium-sized enterprises, infrastructure facilities, and activities that will be organized or created in the future in the territories of Karabakh and East Zangezur through renewable energy; justifying the economic benefit of using renewable energy in the territories freed from occupation; presentation of local-scale development models that can be applied in other areas, which involve the complex use of different types of renewable energy on the example of selected areas, and analysis of the export potential of renewable energy types.

Azerbaijan is a country rich in oil and gas. Currently, the existing oil and gas reserves are sufficient not only to meet the domestic demand, but also to export large volumes. However, the rapid depletion of oil and gas reserves on a global scale creates the need to ensure energy security in the long term in Azerbaijan, as in every country.

Literature Review

In paragraph 5 of the document "Azerbaijan 2030: National Priorities for socio-economic development" approved by the Decree of the President of the Republic of Azerbaijan dated February 2, 2021 ("Clean environment" and "Green growth country") in the direction of climate change and combating it , as well as the issues of application of renewable energy based on the principles of green energy space in all areas of the economy in our country have been reflected. Thus, in accordance with the country's socio-economic

development priorities, more attention is being paid to the use of renewable energy sources and the expansion of the application of "green" technologies in the current and future period. Within the framework of the works carried out in this field, detailed investigations are being continued across the country in the direction of determining the areas with the potential of renewable energy sources. National Priorities are also of particular importance in the direction of the implementation of the obligations arising from the UN's "Transformation of our world: Agenda for sustainable development until 2030" [1, 8].

The decision to hold COP29 in Baku expresses global support for the "green energy" policy in the Republic of Azerbaijan. In December 2023, Mr. President Ilham Aliyev signed a decree declaring 2024 as the "Year of Solidarity for the Green World" in the Republic of Azerbaijan within the framework of international solidarity in the global fight against climate change. In the decree this order, one of the five national priorities for socio-economic development in the Republic of Azerbaijan until 2030 is defined as "Clean environment and green growth country" and in accordance with that priority, environmental health, restoration and increase of greenery, water resources and sustainable energy issues such as ensuring efficient use of resources were mentioned. The main priorities of the document are the sustainable development of a competitive economy, the transformation of the country into a country of clean environment and green growth. In addition, the creation of renewable energy types and the transportation of green energy to world markets are currently considered a priority of the energy policy of the Republic of Azerbaijan [8].

Modern civilization depends on electricity. People can no longer imagine their life without electricity. Most jobs in households, the main types of industry and transport, the activities of science and healthcare, and all other economic activities require electricity. The economic competitiveness, military power, level of science and technical development of the countries also depends on the supply of electricity. That is why every country is trying to be able to ensure its security related to electricity. However, electricity has some features compared to other types of energy. [13] Thus, in the current energy balance of the country, oil and gas have an absolute advantage over other energy sources, including renewable energy sources. The threat of depletion of oil and gas reserves may pose a threat to Azerbaijan's energy security in the future. Therefore, achieving a high level of diversification of the energy balance is important from the point of view of economic and energy security. On the other hand, the close connection between sustainable economic growth and economic security creates the need to achieve energy security in Azerbaijan. Accepting the diversification level of the energy balance as one of the main indicators of energy security, we will try to determine the role of the diversification level in the modern economy of Azerbaijan by evaluating the relationship between these two indicators in Azerbaijan. [14].

The leading role in the production of electricity in Azerbaijan belongs to fuel-fired power stations and thermal power stations. In the last half century, the power of these plants is more than 82-85% of the total power of the country's electric power plants. The power of hydropower plants is 15-17% of the total power. The capacity of renewable energy sources in the country is very low and has only approached 1% in recent years. [15]

Analyse

The power and production potential of existing stations in Azerbaijan is increasing year by year. However, there has been no significant increase in the volume of electricity produced over the past 27 years. On the contrary, compared to 1990, the production volume decreased in some years. For example, in 1990, the production volume was 23152 million KWh, in 2007 it was 21847 million KWh, and in 2009 it was 18869 KWh. Of course, the decrease in the volume of production may be related to the decrease in the volume of consumption in those years. However, during that period, the difference between production potential and actual production volume has changed dramatically. Better supply of these areas with other energy carriers can be cited as one of the factors that lead to a decrease in the consumption of electricity in areas of economic activity. Thus, the improvement of supply with natural gas and thermal energy has led to a decrease in the volume of electricity use both in households and in areas of economic activity. Improvements in gas and electricity supply over the past 20 years have greatly reduced the use of wood as an energy source. This has had a positive effect on the protection of forest massifs. [14]

In Azerbaijan, thermal power plants play an important role in meeting the energy needs of the population and industry. However, for sustainable development and reduction of dependence on traditional energy sources, it is necessary to actively develop alternative sources such as solar, wind and hydropower. Increasing alternative energy sources is necessary in terms of the following factors:

1. Diversification of the energy balance: Increasing the production and use of alternative energy sources will diversify the country's energy complex, reduce dependence on oil and gas, and

increase its resistance to changes in the global energy market.

2. Environmental Sustainability: Alternative energy sources such as solar and wind energy are cleaner and more sustainable than traditional sources such as oil and coal. Increasing their use will help reduce greenhouse gas emissions and improve environmental quality.

3. Energy security: The development of alternative energy sources helps to reduce the dependence on imported energy resources and improves the country's energy security, especially against the background of global changes in energy policy and market conditions.

Thus, it is necessary to evaluate the energy security of oil exporting countries, especially Azerbaijan, from three different aspects. The first phase involves assessing the security of supply and risks to meet the country's current and future energy needs. Azerbaijan has shown a significant increase in oil production in the last two decades, but in the near future there is a possibility of a sharp decrease in production and even difficulties in meeting domestic demand. However, the presence of a large amount of gas fields in the country and the expansion of exploitation of these fields have a positive effect on the energy balance, and this plays an important role in ensuring energy security in the future.

In the second stage, as an oil exporter, Azerbaijan's dependence on foreign demand and oil price fluctuations on world markets is measured. A sharp drop in oil prices can have a severe impact on the country's economy.

Thirdly, the issue of environmental risks comes to the fore. Production, processing and transportation of oil and gas in the country have negative effects on the environment.

Considering these factors, diversification of the energy balance, long-term security of supply, and security risk assessment of demand for energy exports are critical in the quantitative assessment of energy security for Azerbaijan. In this study, we will evaluate the diversification of the energy balance with the Herfindahl-Hirschman, Simpson, Rao-Sterlinga indices and study the effects of the level of diversification on economic growth. [13]

Increasing the production and consumption of alternative energy sources in Azerbaijan is an important step to ensure sustainable and efficient development of the country in the long term. [15]

In all territories of the Republic of Azerbaijan, as well as in Nagorno-Karabakh and surrounding regions, there is a great potential of renewable energy sources such as hydropower, solar, wind, bioenergy and geothermal energy. According to preliminary estimates, the potential of solar energy here is 7200 MW, the potential of wind energy is 2000 MW, and the potential of hydroelectricity is more than 700 MW. [8]

In the southern plain part of Karabakh - Fuzuli, Jabrayil, Zangilan regions, solar radiation falling on one square meter of horizontal surface is 1650-1750 kWh per year. In Kalbajar, Lachin, Gubadli, Zangilan, Jabrayil, Fuzuli regions, which were initially freed from occupation, 8 potential areas with a total area of 14427 ha have been identified for the construction of Solar Power Stations (SPPs) with a total potential of more than 4000 MW. In our opinion, the number of potential areas is more it's over.

In the mountainous part of Lachin and Kalbajar regions, located on the border with Armenia, there are large areas where the average annual wind speed is 7-8 m/s at an altitude of 100 meters. In general, the potential of wind energy in the mountainous areas of Karabakh is estimated up to 500 MW. [2]

At the same time, Karabakh and our surrounding regions are rich in geothermal energy sources. Thus, there are 3100 cubic meters/day in Kalbajar district and 450 cubic meters/day in Shusha, and it is possible to use these thermal sources for energy purposes. In our opinion, taking into account the potential and geographical conditions of the territories freed from occupation, mining industry in Kalbajar and Zangilan districts, processing industry in Agdam district, Gubadli, Zangilan, Lachin, Fuzuli, Khojavand and Sugovushan districts as new economic centers in the field of agriculture. should be evaluated [7].

In the project, it is planned to consider the issues of "Smart Village" and "Smart City" involving innovative technology in the region, creation of innovative technologies and, most importantly, integration of agroparks and technoparks to be created in the areas. This in itself will integrate the Karabakh economy into the country's economy and will have a positive effect on all the changes that may occur in the region. One of the points that investors are always interested in is the availability of infrastructure based on innovative technological foundations. The "Green Energy Zone" project currently being implemented here will attract the interests of investors in the future, will create ample opportunities for the involvement and application of certain startups here, and on the basis of this, the processes will continue in a chain and will eventually lead to further development of the country's economy.

Conclusion

In the project, it is planned to examine the issue of hydropower, solar energy, wind energy and geothermal energy potential and export potential of

the Republic of Azerbaijan. This in itself will integrate Azerbaijan's economy into the world economy and will have a positive effect on all changes that may occur in the region. One of the points that investors are always interested in is the availability of infrastructure based on innovative technological foundations. The "Green Energy Zone" project, which is currently being implemented in our Republic, will attract the interests of investors in the future, will create ample opportunities for the involvement and application of certain start-ups, and on the basis of this, the processes will continue in a chain and will ultimately lead to further development of the country's economy.

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Directions for the improvement of environmental indicators for the Republic of Azerbaijan based on the methodology of the international environmental efficiency index

Peri Salimova[1] , Gulnara Mammadova[2]

[1]Baku State University
[2]Western Caspian University, Baku, Azerbaijan

Abstract

Sustainable development has entered a new era of development based on environmental information. To meet the ambitious targets set out in the 2015 United Nations Sustainable Development Goals (SDGs) and the Paris Climate Agreement, countries must integrate environmental indicators into pollution control and natural resource policies. Data gives policymakers additional tools and skills, enabling progress to be made by moving forward or backward, and by identifying best practices to generate insights into sustainability challenges. In particular, the Sustainable Development Goals (SDGs) consist of quantified, time-bound targets that require each country to measure its results and hold citizens and civil society leaders accountable for these goals.

Reliable data and evidence-based analysis should guide government officials' policy agendas to communicate with key stakeholders, identify best practices, and maximize the return on environmental investments.

Environmental Efficiency Index (EPI) reflects a number of indicators for managing natural resources and protecting human health from environmental risks.

The complexity behind environmental problems can be dangerous and overwhelming. Information requires serious analysis and communication to help decision makers solve problems. Discussions about sustainable development can be associated with unclear agendas, uncertainty about the nature of the problems, and ill-defined solutions.

Environmental Efficiency Index (EPI) combines 11 categories and 32 indicators for 180 countries, in 2 parts Environmental Health (HLT) and Ecosystem Vitality (ECO).

Keywords: sustainable development; innovative technologies; environment; green economy; green energy; green technologies.

Introduction

The Environmental Performance Index (EPI) serves as a communication tool for presenting complex ideas in simpler, more useful forms. A single 0-100 score for each selected country serves as a starting point for deeper discussions. Government officials, non-governmental organizations and every citizen can analyze the indicators of the Environmental Performance Index (EPI) to know which issues are sustainable and which they are stopping. Country scores on the Environmental Efficiency Index (EPI) are given in the form of a rating. Environmental Efficiency Index (EPI) is designed to improve the country's level in the rankings of any other country and increase its competitiveness. It provides an opportunity to monitor the changes of data related to countries over time through the results of the Environmental Efficiency Index (EPI). Thus, the Eco-Efficiency Index becomes a useful tool for many issues, such as identifying best practices, political programs, environmental management and setting priorities.

The Environmental Performance Index (EPI) indicators provide a roadmap for identifying problems, setting targets, tracking indicators, understanding outcomes and identifying best policy practices.

The Environmental Performance Index (EPI) is presented as a powerful policy tool that supports efforts to achieve the goals of the UN Sustainable Development Goals and guide society towards a sustainable future. Overall, the EPI calculations show which countries are better at solving the environmental problems facing each nation. Policymakers and other stakeholders in developed countries are showing that despite the challenges of economic growth, they can mobilize focused societies to protect natural resources and human well-being.

Other new indicators deepen the analysis of air quality, biodiversity and habitats, fisheries, ecosystem services and climate impacts.

The Environmental Performance Index (EPI) includes 32 indicators across 11 aspects and

ecosystem sustainability, which includes environmental and health resource service levels. Each level is shown as a percentage of the total score.

The calculation of all indicators included in the Eco-Performance Index (EPI) methodology for each country is as follows [1].

Indicator Score = (X – W) / (B – W) × 100

Where:

X is the value of the country,

B – is the best indicator for 180 countries,

W-180 is the worst indicator in the country.

If the value of the country is greater than B, its indicator score is set to 100-point. Likewise, if a country's value is lower than W, its indicator score is 0.

For this reason, it is extremely important for the audience working towards the improvement of the environment outside and inside the country to study the ecological indicators.

The rankings in the report are particularly useful for fostering healthy competition among countries aspiring to be leaders in peer groups.

Environmental Performance Index (EPI) is a key environmental index. The Environmental Performance Index (EPI) is based on two policy goals: ecosystem sustainability, which includes environmental and health resource service levels that affect human health. These goals generally reflect the transformation of environmental issues into priority policy areas by politicians and the constituents of the policies they deal with. The Environmental Efficiency Index (EPI) combines information on 32 environmental indicators selected in 11 categories, including the 2 political goals Environmental Health (HLT) and Ecosystem Vitality (ECO) [1,2].

In the Environmental Performance Index (EPI), the Air Quality (AIR) category has a capacity of 40% in the Environment (HLT) policy objective.

In the air quality (AIR) category, the Republic of Azerbaijan ranked 150th among 180 countries with 24.9 points, and has advanced by 5 points in the last ten years. According to this indicator, the Republic of Azerbaijan ranks 10th among the CIS countries.

The assessment of the indicators used to measure the air quality (AQ) category is as follows:

Solid particles (PMD) (Particulate matter (PM)), PM2.5 diameter ≤2.5; The share of this indicator in the Air quality (AIR) category is 11%. According to this indicator, the Republic of Azerbaijan ranks 170th among 180 countries with 12.7 points and has advanced by 3.5 points in the last ten years.

The share of Household solid fuels (HAD) usage indicator in Air quality (AIR) category is 8%. According to this indicator, the Republic of Azerbaijan ranks 85th among 180 countries with 40.7 points and has advanced by 8.4 points in the last ten years.

The share of the ozone exposure (OZD) indicator in the Air quality (AIR) category is 1%. According to this indicator, the Republic of Azerbaijan ranks 134th out of 180 countries with 33.1 points and has decreased by 6.2 points in the last ten years.

In the sanitation and drinking water (H_2O) category, the Republic of Azerbaijan ranks 97th among 180 countries with 45.5 points and has advanced by 1.5 points in the last ten years. According to this indicator, the Republic of Azerbaijan ranks 10th among the CIS countries.

In the sanitation and drinking water problem category, countries are assessed on two indicators of how well they protect human health from environmental risks: unsafe drinking water and unsafe sanitation.

On the indicators used to measure the sanitation and drinking water (H_2O) category, the assessment is as follows:

Unsafe sanitation (USD) The share of this indicator in the Air quality (AIR) category is 6.4%. According to this indicator, the Republic of Azerbaijan ranks 105th among 180 countries with 44.3 points and has advanced by 1.5 points in the last ten years.

The share of Unsafe drinking water (UWD) usage indicator in Air quality (AIR) category is 9.6%. According to this indicator, the Republic of Azerbaijan ranks 84th among 180 countries with 46.4 points and has advanced by 1.6 points in the last ten years.

In the category of heavy metals (HMT), the Republic of Azerbaijan ranks 121st among 180 countries with 41 points and has advanced by 4.4 points in the last ten years. According to this indicator, the Republic of Azerbaijan ranks 9th among the CIS countries.

Lead exposure PBD is taken as the indicator used. The share of this indicator in the Air quality (AIR) category is 2%.

While heavy metal pollution remains a global problem, lead pollution continues to slowly decline, making it a new policy priority. The widespread production and recycling of lead batteries leads to the release of high levels of lead waste into the environment in low- and middle-income countries. Strong regulation and widespread adoption of safe industrial practices will be required to minimize the health effects of this safe pollutant and heavy metals in general.

To measure the heavy metals (HMT) category, the Waste Management (WMG) category in the Environmental Performance Index (EPI) has a capacity of 2% in the Environment (HLT) policy

objective [65].

We highlight the ongoing challenges in collecting comprehensive waste management data and urge countries to strengthen monitoring of this critical environmental issue.

The Republic of Azerbaijan ranks 133 out of 180 countries in the category of waste management (WMG). According to this indicator, the Republic of Azerbaijan ranks 9th among the CIS states.

Controlled Solid Waste (MSW) is taken as the indicator used to measure the category of waste management (WMG). The share of this indicator in the Air quality (AIR) category is 2%.

It shows that the generation and disposal of waste in waste management poses a significant threat to human health and the environment, creates toxic air and water pollution, allows the spread of pathogens, damages marine waters, and causes climate change.

Globally, household and solid waste is collected and treated as a rule, taking into account the environmental risks. Globally, less than half of domestic and commercial solid waste is collected and disposed of in a way that protects the environment from risks.

Comparative study of Azerbaijan's position on the aspect of ecosystem sustainability

Ecological Performance Index (EPI) - Ecosystem Vitality (ECO) political goal includes 7 categories and 25 indicators.

The ecosystem sustainability (ECO) category has a volume of 60% in the Environmental Performance Index (EPI). According to this indicator, Azerbaijan ranks 44th among 180 countries with 55.7 points and has advanced by 4.5 points in the last ten years.

In the Environmental Performance Index (EPI), the Biodiversity and Habitat (BHD) category has a capacity of 15% in the Ecosystem sustainability (ECO) policy objective.

The world is taking significant steps to protect biodiversity.

Despite the low level of habitat, Bolivia and Zambia are ranked high among countries in terms of biodiversity and habitat indicators due to their high level of biome conservation.

Eastern and Western European countries have made significant progress in biodiversity conservation through initiatives such as the Network of Protected Areas.

In the category of biodiversity and habitat (BHD), the Republic of Azerbaijan ranked 104th among 180 countries with 56.9 points and has advanced by 0.1 points in the last ten years. According to this indicator, the Republic of Azerbaijan ranks 4th among the CIS states [4].

The share of marine protected areas (MPA) in the category of Biodiversity and habitat (BHD) of this indicator is 3%. It is measured by the percentage of the exclusive economic zone covered by the country's Marine Protected Areas (MPAs). The evaluation for this indicator has not been carried out for the Republic of Azerbaijan.

Protected Area Representativeness Index PAR. The share of this indicator in the category of Biodiversity and habitat (BHD) is 1.5%. The Protected Area Representation Index measures the degree to which a country's terrestrial protected areas are ecologically representative of species within that country. According to this indicator, the Republic of Azerbaijan ranks 141st among 180 countries with 11.7 points and has advanced by 4.1 points in the last ten years.

Biodiversity Habitat Index (BHV) The share of this indicator in the category of Biodiversity and habitat (BHD) is 1.5%. The Habitat Biodiversity Index measures the change in biodiversity conserved in a country, loss and degradation in the country. According to this indicator, the Republic of Azerbaijan ranks 147th out of 180 countries with 44.4 points and has decreased by 0.8 points in the last ten years.

The score on the indicators used to measure the Ecosystem Services (ECS) category is as follows:

Tree cover loss TCL. The share of this indicator in the category of Biodiversity and habitat (BHD) is 5.4%. Percent reduction in national tree cover in forested areas, defined as areas with more than 30% tree cover relative to the baseline 2000, using an average over a five-year interval. According to this indicator, the Republic of Azerbaijan ranks 19th among 180 countries with 80.2 points and has advanced by 18.6 points in the last ten years.

Grassland loss GRL. The share of this indicator in the category of Biodiversity and habitat (BHD) is 0.3%. According to this indicator, the Republic of Azerbaijan ranks 58th among 180 countries with 65.2 points and has advanced by 18.4 points in the last ten years.

Wetland loss (WTL) the share of this indicator in the category of Biodiversity and habitat (BHD) is 0.3%. According to this indicator, the Republic of Azerbaijan ranks 1st among 180 countries with 100 points and has advanced by 65.4 points in the last ten years.

In the Ecological Efficiency Index (EPI), the Fisheries (FSH) category has a capacity of 6% in the Ecosystem sustainability (ECO) policy objective [8].

The state of global fisheries continues to deteriorate. About a third of the world's fish harvest comes from overexploited or depleted fish stocks, and harmful practices such as trawling account for 30-40% of the world's catch. While no country is great at fishing, Bahrain is not

Argentina, Australia and Russia have the worst

performance. Countries should prioritize expanding monitoring efforts and modernizing data collection systems to help protect global fish stocks and the communities that rely on them.

Fisheries are an important source of nutrition and economic activity for communities around the world. The Food and Agriculture Organization of the United Nations (FAO) states in the State of World Fisheries and Aquaculture (SOFIA) report that 59.6 million people participated in fisheries and fisheries in 2016. In addition, the report explains that fish production reached a new record in 2016 with 171 million tons of fish and fish farming products, with about 33 percent of marine fish stocks being fished for biological sustainability [5]. Overfishing, declining fish species diversity and degraded ecosystems threaten the world's marine fish stocks. With the growing demand for food from a growing population, the uncertain future of the world's fisheries poses a major challenge for human nutrition, economic activity and ecosystem health. The evaluation for this indicator has not been carried out for the Republic of Azerbaijan.

In the Environmental Performance Index (EPI), the Climate Change (CCH) category has a capacity of 24% in the Ecosystem Resilience (ECO) policy objective [7].

In the climate change (CCH) category, the Republic of Azerbaijan ranks 100th among 180 countries with 48.6 points and has advanced by 2.6 points in the last ten years. According to this indicator, the Republic of Azerbaijan ranks 7th among the CIS countries. Adjustment of growth rates of four greenhouse gases and another climate change-related pollutant is critical [6].

The following 5 emissions account for 90% of the weight of the climate change category (CCH).

- carbon dioxide (CO2),
- methane (CH4),
- fluorine gases (F gases),
- nitrogen oxide (N2O),
- black carbon.

The assessment of the indicators used to measure the climate change category (CCH) is as follows:

Growth rate Carbon dioxide (CO_2) – (CDA). The share of this indicator in the Climate Change (CCH) category is 13.2%. According to this indicator, the Republic of Azerbaijan ranks 86th among 180 countries with 42.4 points, and has decreased by 4.1 points in the last ten years [9].

Growth rate Methane (CH_4) – (CHA). The share of this indicator in the Climate changes (CCH) category is 3.6%. According to this indicator, the Republic of Azerbaijan ranks 138th among 180 countries with 43.8 points and has advanced by 35.9 points in the last ten years.

Growth rate of Fluorinated gases (F-gases) – (FGA). The share of this indicator in the Climate Change (CCH) category is 2.4%. According to this indicator, the Republic of Azerbaijan ranks 92nd among 180 countries with 88.9 points and has advanced by 27.8 points in the last ten years.

Growth rate nitrous oxide (N_2O) – (NDA). The share of this indicator in the Climate Change (CCH) category is 1.2%. According to this indicator, the Republic of Azerbaijan ranks 83rd among 180 countries with 60.9 points and has advanced by 46.6 points in the last ten years.

Growth rate of black carbon (BCA). The share of this indicator in the Climate Change (CCH) category is 1.2%. According to this indicator, the Republic of Azerbaijan ranks 130th out of 180 countries with 37.4 points and has decreased by 39.2 points in the last ten years.

Growth rate in carbon dioxide(CO_2) emissions from land cover – (LCB). The share of this indicator in the Climate changes (CCH) category is 0.6%. This indicator shows the average annual increase or decrease in CO2 emissions as a result of land cover changes during 2001-2015. According to this indicator, the Republic of Azerbaijan ranks 1st among 180 countries with 100 points.

Greenhouse gas (GHG) intensity growth rate - GİB. The share of this indicator in the Climate Change (CCH) category is 1.2% [12].

The intensity of the gases that create the heating effect shows the ratio of tons (CO_2-equivalent) per unit of GDP. It shows the average annual growth rate of greenhouse gases over a ten-year period from 2008 to 2017. According to this indicator, the Republic of Azerbaijan ranks 151st among 180 countries with 27.7 points and has declined by 72.3 points in the last ten years.

Per capita greenhouse gas (GHG) emissions (GHP). The share of this indicator in the Climate changes (CCH) category is 0.6%. This indicator is measured by taking into account the average greenhouse gas emissions per capita in each country in 2017. According to this indicator, the Republic of Azerbaijan ranks 109th among 180 countries with a score of 40.3 and has decreased by 4.9 points in the last ten years.

In the Eco-Performance Index (EPI), the Pollutant Effluent (APE) category has a capacity of 5% in the Ecosystem Resilience (ECO) policy objective [6].

On the agricultural side, global nitrogen emissions are tracked using indicators at the Appalachian Laboratory at the University of Maryland Environmental Science Center. Small improvements in nitrogen waste management over the past decade have mostly resulted from increased productivity rather than improved efficiency. Mismanagement of nitrogen in the agricultural

sector continues to threaten the health and sustainability of agricultural systems and the natural environment. It is important because of the need for improved monitoring and data collection in this sector and for the development of new indicators that better reflect the impacts of agricultural systems on soils, land and water resources, the global food chain and climate change.

The Sustainable Nitrogen Management Index (SNM), which is used to measure the agriculture (AGR) category, is measured as balancing efficient nitrogen fertilization with yield reduction as an indicator of the environmental performance of agricultural production. According to this indicator, the Republic of Azerbaijan ranks 18th among 180 countries with 64.3 points and has advanced by 13.2 points in the last ten years [7,8].

In the agriculture (AGR) category, the Republic of Azerbaijan ranked first among 180 countries with 100 points and has advanced by 4.9 points in the last ten years. According to this indicator, the Republic of Azerbaijan ranks first among the CIS states [10].

In the pollutant waste (APE) category, the Republic of Azerbaijan ranks first among 180 countries with 100 points and has advanced by 4.9 points in the last ten years. According to this indicator, the Republic of Azerbaijan ranks first among the CIS states [8].

The evaluation of the indicators used to measure the pollutant waste (APE) category is as follows:

Growth rate of sulfur dioxide (SO_2) – (SDA). The share of this indicator in the Pollutant waste (APE) category is 1.5%. According to this indicator, the Republic of Azerbaijan ranked first among 180 countries with 100 points.

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Public-private partnership as an innovative resource of the region

***Shukrane Akhundova*[1], *Mansur Madatov*[2]**

[1] *Western Caspian University, Istiqlaliyyat Street, 31, Baku, AZ0001, Azerbaijan, shukraneaxundova@gmail.com*
[2] *Western Caspian University, Istiqlaliyyat Street, 31, Baku, AZ0001, Azerbaijan, mansur.medetov@wcu.edu.az, 0000-0002-1067-7141*

Abstract

The essay examines the fundamental challenges of the concept of social entrepreneurship from both economic and legal points of view. The legislation pertaining to social entrepreneurship appears fragmented and inconsistent, likely because Azerbaijan's legislative body is just getting started in terms of creating a legal framework for action. All of this is detrimental to the growth of social entrepreneurship. Less than one-third of entrepreneurs are engaged in this kind of activity, according to official city statistics. Most entrepreneurs who presently run a socially conscious business do not want to grow it further. The analysis has the potential to help Azerbaijan establish developed socioeconomic ties. Establishing productive relationships between social entrepreneurs and the state, as well as between them and beneficiaries, can help achieve this.

The primary definitions of public-private partnerships are discussed, and the author provides evidence for her emphasis on public-private entrepreneurship by describing the primary business-government interactions. A novel form of business-government interaction is reflected in the public-private entrepreneurship system: state franchising. Foreign and local experience shows that in the process of creating an innovative economy, it is useful for the public sector, as well as for the business sector, to use various forms of interaction, including partnerships. It is through such interaction between business and government that programs can be implemented.

Keywords: public-private partnership, entrepreneurship, public entrepreneurship, private entrepreneurship, business and government interaction, franchising, state franchising, innovation, modernization, competitiveness

Introdoction

As a result of the economic reforms implemented in the country in connection with the transition to a market economy, the creation of favorable conditions for the commercial activity of the population ultimately led to the emergence and formation of entrepreneurship. In a market economy, the independent, economic and commercial activity inherent in man manifests itself in entrepreneurial activity. The main condition for social and economic development is entrepreneurial activity, which takes various forms and contents. Entrepreneurs, in turn, constitute the social layers of society that are proactive, adopt and implement scientific innovations. The development of entrepreneurial activity in the Republic of Azerbaijan occupies a leading position in the concepts of economic development and plays the role of an economic-organizational mechanism in ensuring production, consumption and distribution relations. Therefore, the development of entrepreneurship according to the Azerbaijani model includes the current state of the country's economy, the formation of perspective development in this area and the implementation of improvements in productive forces. The independent Republic of Azerbaijan attaches special importance to the establishment of free entrepreneurial activity for the development of entrepreneurial activity in the conditions of market relations. The development of the national economy provides the necessary assistance in adapting to the needs of the population and the competitive market in the country, in educating the entrepreneurial spirit in people and determining the direction of development of entrepreneurial activity. The formation of free entrepreneurial activity increases the production of goods in the country, creates conditions for the development of the consumer market, helps to eliminate unemployment, provide employment and increase state revenues. The history of entrepreneurship as a type of economic activity dates back to the Middle Ages.

Already merchants, traders, artisans and charitable missionaries began to engage in this type of entrepreneurship. The theoretical foundations of entrepreneurship were studied by world economists

such as A.Smith, R.Cantillon, Tunen, K.Marks, Y.Sumpeter and others. In modern times, A.B.Abbasov, G.N.Manafov, S.H.Muradov, A.S. Imanov, Z.A. Samadzade, A.F. Musayev, I.Z. Seyfullayev, V.M. Niftullayev, Y.A. Kalbiyev and other economists contributed to the study of entrepreneurship in terms of taxes in the study of this area. The problems of formation and development of small and medium-sized enterprises were studied by R.M.Jabiyev, T.N. Aliyev, N.O. Hajiyev, A.S. Mehtiyev, A.B.Sariyev, F.H. Abbasov and others.

The collapse of the socialist system in the 1990s created conditions for entrepreneurship. The decisions taken in our independent republic on property and entrepreneurial activity created a legal basis for such activities. Since this period, private property and entrepreneurial activity have acquired a new form and content with the emergence of joint-stock companies and other forms of economic activity.

Methods

Foreign literature written in the field of entrepreneurship, scientific research, studies and opinions of classical and Azerbaijani scientists on the current status and development of this field. The adoption of legal regulations on the development and formation of entrepreneurship in Azerbaijan, especially constitutional laws and implementation of measures in this direction, covers the main theoretical and methodological aspects of the study. In addition, statistical indicators were used to determine the development of entrepreneurship.

At this stage of the development of the world economy in general, and the economy of Azerbaijan in particular, Azerbaijani business is much more ready to enter into partnership with the state than a few years ago. The attitude of both the state and the business sector to the partnership is ambiguous. Some scientists see the possibility of an economic breakthrough in public-private partnership, while others see the possibility of abuse of budget funds and increased corruption. Foreign and local experience shows that in the process of creating an innovative economy, it is useful for the public sector, as well as for the business sector, to use various forms of interaction, including partnerships. It is through such interaction between business and government that programs can be implemented.

It is necessary to consider the most efficient and promising forms of interaction between the public and private sectors of the economy. Before proceeding with the analysis, it is necessary to define the basic concepts. The public sector is part of a mixed economy, fully managed by government agencies, and owned by the state, which includes education, health, social services, public transportation, state-owned enterprises, and corporations. Entrepreneurship is an entrepreneurial initiative, an independent activity, carried out by citizens, individuals and legal entities on their own behalf at their own risk and property liability, aimed at systematically generating income, profiting from the use of property and obtaining security.

State entrepreneurship forms a special type of entrepreneurial activity carried out within the public sector and related to the participation of state enterprises in the production and marketing of goods and services. It is especially necessary in low-profit industries that are not interested in private capital [1].

Sole proprietorship is the simplest form of business in the form of sole proprietorship. In accordance with the Civil Code of the Republic of Azerbaijan, an individual entrepreneur is responsible for his obligations with all his property [2]. The main difference between state entrepreneurship and private entrepreneurship is the priority of goals: the main goal of state entrepreneurship is not to maximize profits, like private entrepreneurship, but to solve various socio-economic problems.

However, the modern economy, i.e., the task of forming an innovative economy at the level of the government of the Republic of Azerbaijan, some shortcomings of the legislative framework, as well as the requirements of the business environment, dictate the definition of a new form. Public-private entrepreneurship is a set of approaches and forms of entrepreneurial activity for the production of goods and services under the condition of mandatory mutually beneficial cooperation between the public and private sectors of the economy for the purpose of solving socio-economic problems.

According to the authors, public-private entrepreneurship is an innovative and promising form of interaction between business and government in Azerbaijan. In the public-private partnership system, the authors highlight a new form of interaction between business and government - public franchising. Recently, franchising has become more important in the economy of Azerbaijan, it acts as a special way of organizing and conducting business, that is, entrepreneurial activity.

The use of franchising provides significant advantages for the development of business activities both to the persons who give the right to use their business reputation, and to the methods of organizing the production and sale of goods, works, and services (that is, for franchisors), and to the persons who obtain the right to franchise. the opportunity to use them (i.e. the franchisee). In the conditions of increased market competition and globalization of the economy, franchising as a special form of entrepreneurial activity allows to

increase the efficiency of small business and helps small businesses united in franchise networks to reach the national and international levels. The development of franchising allows creating competitive additional jobs in terms of wages and technological equipment through the organization of new franchise enterprises and the expansion of existing franchise enterprises in the regions of Azerbaijan. The need to modernize the domestic economy gives special importance to franchising. From this point of view, it is necessary to mention state franchising as a new form of interaction between business and state structures in the state-private entrepreneurship system. By state franchising, we understand a form of public-private entrepreneurship based on contractual relations, in order to support and develop it, it is assumed that the state will give business instructions on the creation of enterprises for the production of goods and services in the most important sectors in the national sense. small and medium businesses. At the same time, the state should act as a useful partner, not a regulatory body.

The driving forces (subjects) of the deep modernization of a huge country like Azerbaijan can only be socio-political subsystems equipped with elements of subjectivity. These are government (state), society and business.

These subsystems are constantly interacting within the country as a whole, as well as at the regional and municipal levels, and have both specific and common functions. The approach to studying the problem of relations between these subsystems was proposed by G.B.Kleiner. It is based on five principles.

The first is the principle of stability of the configuration of the country's macrosystems: the state (understood as a political organization exercising control); society (the totality of individuals living within a country and capable of association in political and other organizations) and economy (in Marxist terminology, the totality of productive forces and relations of production, or economic agents and economic institutions).

At the same time (the second principle), each of the sub-systems operating at the national level operates relatively independently, i.e. has a certain autonomy. The third principle: mutuality of relations between subsystems. The fourth principle is related to the fact that each of the macrosystems has its own functions and missions that are implemented in interaction with each other, which cannot be replaced even by similar functions of another subsystem.

The last, fifth principle is the principle of institutional continuity as the main function of the state. 1 The state ensures the continuity of the activities of the main institutions of the country in time and space (in the territory of a certain country) and acts as a factor. incorporating heterogeneous elements of the country's development in time and space.2

The three main actors manifest themselves in different forms. State - through state, regional and municipal bodies, activities of institutions and officials - representatives of legislative, executive and judicial bodies. Economy is implemented in the activity of economic subjects in the microeconomic plan, in the mesoeconomic plan - in the development and interaction of complexes, areas, regions, in the macroeconomic plan - in the dynamics of the volumes of produced and consumed products, in the economic plan. price level, employment, investments, etc. The role of society is manifested in the creation and functioning of social organizations, media, etc. Create the most optimal balance between these three at a given historical moment.

If one of the sub-systems begins to dominate (the signs of this are clear in modern Azerbaijan), it will deform the entire social structure and eventually deprive it of its effectiveness, condemning it to lose in competition with balanced social systems.

Adoption of this axiom is extremely important for our country, because the political-economic system of Azerbaijan, which has mastered certain forms of market economy and political democracy in the last twenty years, remains largely alien to the standards of developed countries. To characterize this phenomenon, scientists use the terms "planned capitalism", "trade economy", "mutant capitalism", "political-economic hybrid", "peripheral capitalism", etc.3.

Having chosen the transition to a market economy as a development paradigm, Azerbaijan faced the problem of integrating the desires of the private sector with the interests of the state in the context of the national socio-economic policy. There is a need for a new management system, new mechanisms for interaction between the state and business. The goal is the accelerated formation of a Western European-style social market economy.

Globally, the new features of recent decades have been the "invasion" or attraction of private capital to sectors traditionally controlled by the state in most countries: electricity, utilities, all types of transport infrastructure and other areas of the economy. Alternative sources are actively involved in above-budget funding at all levels in areas such as education, health and culture.

Attracting private capital to the public sectors of the economy - from contracts for the management of existing facilities to private companies implementing the full cycle of construction and operation of new infrastructure - has become a global

trend. This phenomenon was stimulated by the privatization of public assets during the wave of economic liberalization of the 1980s and 1990s, the lack of financial resources of national governments, as well as the greater mobility, innovation, and technological capabilities of business compared to government structures.

But-private partnership manifests itself in the adoption of efficient management traditions by the public sectors of the economy, expansion of investment opportunities, including at the local level, saving budget funds, as well as attracting private investments to solve state problems. Thus, the development of the public-private partnership institution as a "new technology for managing economic development"6 is becoming more and more relevant. Although the idea of such a partnership is far from new. Of course, we are interested in modern forms of PPP. They have been developing since the late 80s. in the last century, when PPP institutions began to develop intensively. Thus, in the last ten years of the 20th century in Great Britain, public-private partnership programs worth 40 billion pounds were implemented with the help of a special program, the Private Finance Initiative (PFI).

Using this mechanism, serious projects such as the Eurotunnel under the English Channel, the Sydney Port Tunnel in Australia, the Confederation Bridge in Canada, the construction of national airports in Hamburg and Warsaw and many other projects were completed. considering these known successes, a number of experts present PPP as a "new technology for economic development management".

In world practice, public-private partnership means, first, a system of relations between the state and business in the form of negotiations (agreements) used as a tool for social development and planning; secondly, specific large-scale projects jointly implemented by state institutions and business, or only private companies in state and municipal ownership. Partnerships mean a system of institutional transformations of the public sector of the economy or reform of state-owned activities and areas through partial (or relative) privatization. However, there are significant differences in the interpretation of the concept in different countries.

In the United States, PPP is understood in a broader sense - "a contractual agreement between the government and a private company that allows for some participation in public ownership to a greater extent than the current practice"10. implies a contract between a public body and a private company whose subject is the construction or reconstruction of a public facility and/or its operation and management. In this case, the main property rights in relation to the object do not change, and the state remains the owner even after it is transferred to a private company.

In the countries of the European Union, partnership is understood in a narrower sense and does not include privatization and traditional public procurement. In recent years, the EU has published quite a number of documents dealing with PPP issues; In a general sense, it refers to forms of cooperation between public authorities and businesses that serve to finance, build, modernize, manage, operate infrastructure or provide services.

Great Britain is the leader in terms of the number of contracts and the number of industries where the PPP mechanism is applied. The British government is using more than 600 projects, worth around £60 billion, to develop and equip all types of infrastructure, from schools to the military industrial complex. Around 100 co-working models are implemented or launched in the UK each year. Public-private partnership accounts for 10-13% of total state investments in the country. The UK experience shows that it is possible to attract private companies to provide services even in infrastructure sectors traditionally considered unsuitable for PPPs (eg police, prisons, defence).

In the 1980s, the use of private capital for public sector needs was regulated in the UK by the so-called Ryrie Rules. They stated that private financing of public projects could only be undertaken if there were no more acceptable forms of risk, such as access to public funds.

government obligations. In 1992, UK Chancellor of the Exchequer Norman Lamont announced the replacement of Rari's rules with the Private Finance Initiative (PFI). PFI gave the green light to the development of any form of contractual relationship between the private and public sectors, including the creation of joint ventures. A type of outsourcing, where the private sector manages public assets, the sale of shares of state-owned companies (but unlike privatization, the state continues to play a major role in the operation of projects.

Japanese leaders soon decided to use the British experience, where PPP very quickly became a noticeable element of the national economy. In 1999, the Law "On Promotion of Development of State Facilities Using Private Financing" (Law on Private Financing Initiative) was adopted. In a condensed form, the concept of Japanese law is that the development of social infrastructure in the country should be based on the state. public funding as widely as possible so that the private sector can use its funds efficiently and profitably. The partnership should ensure a clear division of responsibilities between the parties, and the state's interference in the area of competence of the private sector should be

minimal.

Despite its growing role in the development of modern productive forces, the concept of PPP remains "floating" without a legitimized idea of what such a partnership can be considered. The lack of a clear definition makes it difficult to create a legal and regulatory framework for effective public-private interaction, and it also creates opportunities for speculation about the popular concept and distortions of its basic principles. Hence the terminological instability: local authors use terms such as public-private partnership, public-private partnership, public-private partnership, public-private partnership, public-private partnership. Definitions of the concept are very diverse. For example, V.G. Varnavski defines a partnership between the public and private sector (Public - Private Partnership, PPP) as "strategic, institutional and organizational unity between the state and business to implement socially important projects in a wide range of activities: the provision of public services to primary industry and R&D." submission. Partnerships are increasingly used as a tool for urban and regional economic and social development and municipal planning. Each such alliance is of a temporary nature, as it is usually created for a certain period of time to implement a specific project and ceases to exist after implementation.

Finally, the main characteristics of partnership in the European Union's documents regulating the PPP mechanism are: the long-term nature of the relationship; Full or partial financing by the private sector; sharing risks between partners. The UN Economic Commission for Europe recognizes the following criteria for PPP: long-term; mandatory representation of both private business and the public sector; having the main goal - providing socially important services; obtaining mutual additional benefits during the performance of a joint task; to be guided by the interests of the participants when concluding a contract; the division of income in proportion to participants' investments and accepted risks; formalization of the contract.

Summarizing the characteristics of foreign and domestic sources, we can say that PPP:

• An organizational form of interaction between the public and private sectors of a long-term nature, in which participants produce products or provide services characterized by the sharing of risks, revenues and costs.

• An institutional form of interaction between the public and private sectors, when, according to predetermined rules, the parties pursue their own interests, in order to achieve a common goal work, and also accept investment risks based on an adjustable allocation form. of income and expenses.

• A system in which a public service or private enterprise is financed and managed through a partnership between the government and one or more private sector companies.

• Relationships between the private sector and government agencies, usually to use private resources and/or knowledge to contribute to the creation of public goods and the provision of public services.

The main feature of PPP is that the state attracts private sector investments on the basis of a contract for the development of socially important infrastructure and services.

Unfortunately, it is not yet possible to talk about the diversity of PPP forms in Azerbaijan, because in most cases everything is limited to the so-called innovative projects of national importance, the forms of their organization often do not withstand serious requirements. criticism. Promotion of the development of innovation-oriented entrepreneurship in highly developed countries and newly industrialized countries is closely related to the development of the innovation structure and stimulation of its activity. In recent years, territorial forms of PPP have become technopolises, technoparks and innovation centers, innovative business incubators, technology transfer centers, etc. infrastructure elements such as Currently, it is most relevant to the PPP concept as it is evolving and understood. The Investment Fund of the Republic of Azerbaijan is the most advanced tool of the state and business in terms of experience in the development and application of regulation in Azerbaijan. Potentially, due to the principle of project financing, which is the basis of its work, it is a more effective tool for budget investments compared to state target programs and state regional development programs.

In world practice (according to the World Bank), PPP forms include management contracts and lease contracts, concessions, new construction projects, partial privatization of assets [7] theory and practice: public contracts with private sector investment obligations; lease of state property; equity participation; concessions; production sharing agreement; contracts combining different types of labor and property relations [8], which allows us to conclude that it is appropriate to further develop the normative legal framework in the field of PPP, which regulates the relations, rights and duties of public and private partners.

In a broad sense, joint financing by the state between the state and business, participation in capital, delegation of powers to manage the object of the contract, transfer of ownership rights to a private partner, etc. ., can be interpreted as PPP, which allows us to include the implementation of federally targeted programs and national projects, the creation of special economic zones, technoparks and

technopolises, the creation of integrated structures (state corporations), clusters, investment and enterprise.

An increasingly common form of intensification of innovation activity in the market economy is venture financing of high-risk innovative projects. Venture capital as an alternative source of finance for private innovative business originated in the United States in the mid-50s of the 20th century, and then became widespread in Europe. When comparing venture entrepreneurship in Azerbaijan, where the first funds were created in 1994, and in Europe and the United States, where the history of venture capital goes back decades, the innovation sector of Azerbaijan's economy seems much weaker than similar sectors of the economy. developed countries.

Despite the positive changes in the economy and the growing interest in Azerbaijan's innovative business, there are still many obstacles that prevent the more dynamic development of venture entrepreneurship in Azerbaijan:

• complex tax system;

• multiple regulatory bodies;

• a complex and complex mechanism for the implementation of the existing normative-legal framework;

• low-level education on management of innovation projects;

• insufficient development of innovation infrastructure, investment and finance, including securities market.

Criteria for differentiating models of cooperation between the state and business can be:

- PPP goals determined by the external environment (the need to attract private investments to the economy; ensuring the availability of goods, works, services and improving their quality as a result of the creation and modernization of social, transport, production and other infrastructure);

- predominance of a certain type of interaction between the state and economic subjects.

Three types of interactions can be distinguished within PPP:

1) organizational - regulation of the states of elements within the system and environment, as well as the interaction of elements with each other. At this time, the role of the state is limited to the function of organizing and/or monitoring the implementation of the rules developed by the subjects based on the consideration of the interests of all parties;

2) equity participation - public and private partners create a mixed company based on capital pooling;

3) contract - cooperation between partners is carried out on the basis of legally formalized contracts, agreements, agreements, including those regulated by the norms of the Civil Code of the Republic of Azerbaijan.

Organizational-legal forms and mechanisms of PPP implementation are regulated by the relevant legislation and normative legal acts, taking into account the features of the state-legal regulation of the area of economic activity in which the PPP is implemented. Thus, the main forms of PPP projects in the field of natural monopolies are concession and production sharing agreements; socially important projects - concessions with investment conditions, reliable management and lease agreements; in the field of innovation development - agreements on the creation of a special economic zone, clusters, technological parks.

In the practice of structuring Azerbaijani PPP projects, as a rule, two main models that can be combined under certain conditions are considered:

1. Structuring of the project by contractual means;

2. Capitalization of the existing owner (owner, operator) of relevant infrastructure objects with the participation of a private partner in its capital.

When analyzing these options, it should be taken into account that, as a rule, it is the private investor who must finance and undertake the PPP project

In the long term, the operator of the infrastructure facility will be responsible for the performance of its functions, and will participate in the project on the condition of obtaining control over its implementation. This control involves the ability to manage the company implementing the project, to obtain the most complete rights to the property necessary for the purposes of project implementation, as well as to manage financial flows within the project.

Contract models

As part of the contractual structuring option, the parties to a PPP project are contractually guaranteed their rights and obligations. The contract scheme offers various possibilities for structuring projects. Among the main forms, the following can be mentioned: concession contracts, PPP contracts, long-term investment contracts, lease contracts with investment conditions, life-cycle contracts, operator contracts, etc.

LCCs are mixed contracts due to their complexity and may include a contract for the provision of paid services, a construction contract, a design and research contract, etc. According to the current legislation of the Russian Federation, these contracts are classified as contracts for the provision of paid services.

A type of PPP that involves the minimum amount of project risks given to a private investor is the conclusion of contracts for the "service" or "use" of

infrastructure facilities implemented by private companies ("operators").

Service contracts are entered into for the maintenance of a PPP property owned by the PPP and involve routine maintenance, cleaning and other scheduled work to keep the facility in good condition (eg maintenance and upkeep). existing highway). There are no "service concessions" in the sense of international practice in Russia.

Corporate models (capitalization)

The corporate model is a mixture of a corporate and an investment contract. The parties agree on the management of the company and the simultaneous construction (reconstruction) of the facility within the framework of one project. The most famous examples are the reconstruction projects of Bolshoi Savino in Perm and Kurumoch airports in Samara.

As part of the project implementation path through the capitalization of an existing state or municipal company, this company remains the operator of the existing infrastructure with ownership or lease rights to the infrastructure facilities. The investor participates in the implementation of the project by gaining control over the company, after which the latter begins to implement the project (in the first stages: construction, reconstruction). Financing is carried out at the expense of the investor's personal funds invested in the authorized capital of the company, as well as by attracting debt funds from the company. The ability of the company to attract debt funds can also be provided by the investor. The company controlled by the investor becomes the owner of all reconstructed and newly created infrastructure facilities. The company continues to operate as an infrastructure operator.

As the analysis shows, there is no universal model for the implementation of all PPP projects, because each of them requires an individual approach and adaptation of one or another selected model to the interests of the participants of the investment projects, which will allow optimal consideration. certain technical, economic, financial criteria. The selection of the most suitable form, model and mechanism of the project is determined by the following criteria: the purpose of the partnership, validity period, distribution of the scope of rights, responsibilities and risks for the project, ratio. sources of financing infrastructure facilities, availability of return mechanisms for private investments. Based on the accumulated experience of countries, it can be noted that even within the same country, different models or combinations of them are used in different industries.

The existing regulatory base and accumulated investment experience provide a significant number of puzzle tools for designing a specific project, its model.

Conclusion

Today, franchising in Azerbaijan is successfully used in the fields of public catering and household services, and it is beginning to be used in such sectors of the "new economy" as information technologies or medical diagnostics. We consider it necessary to devote additional research to the development and implementation of the state franchising mechanism.

As a result of the study of existing theoretical approaches to the classification of PPP implementation models, forms and mechanisms, the criteria for differentiating models of interaction between the state and business are justified and models are defined: organization, participation in capital.

The PPP implementation mechanism is interpreted as an instrument of interaction between public and private partners limited by the scope and/or scope of their interests and defines the principles, rules and sequence of certain actions between different PPP subjects.

Thus, the study revealed the additional advantages of combining the terminological and conceptual apparatus in the field of PPP, which, according to the authors, will reduce the degree of uncertainty of scientific processes and increase the adequacy of PPP to modern realities.

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What causes deforestation: a panel data analysis for top deforested countries

Sinan Erdogan

Corresponding author

Department of Economics, Hatay Mustafa Kemal University, Hatay/Türkiye.
e-mail: phderdogan@gmail.com

Abstract

Forests can significantly contribute to closing the emissions gap globally. They are vital reservoirs of biodiversity, helping to maintain a cool and healthy planet and contributing to the economic, social, and cultural well-being of locals. However, the world has been experiencing significant deforestation in recent years. Deforestation is considered among the biggest contributors to global warming, affecting around ten million hectares of land every year. Yet, researchers have paid less attention to empirically unveiling what causes deforestation. The primary target of this study is to investigate what causes deforestation in top deforested countries from 1994 to 2021 by investigating possible cross-section dependence. Empirical evidence denotes that (i) a long-run relationship exists among variables, (ii) a rise in economic development and forest regenerative capacity levels prevent deforestation, and (iii) an increase in forest rent, agricultural land, and population density causes deforestation. Policy proposals regarding the obtained empirical results have been provided in the body of the text.

Keywords: Deforestation, Sustainable Development, Economic Development, Sustainable Development Goals, Panel Data Analysis.

Kiçik su elektrik stansiyalarında istifadə olunan sinxron generatorların təsirlənməsinin idarə olunmasının riyazi model əsasında öyrənilməsi

Musayev Müsahil Müsavər oğlu

Azərbaycan Elmi-Tədqiqat və Layihə-Axtarış Energetika İnstitutu
E-mail: musahil@gmail.com

Kiçik SES-lərdə generatorun iş rejimindən və yüklənmə əyrisindən asılı olaraq aktiv güc itkilərinin minimuma endirilməsi məsələsinə baxılmışdır. Sinxron generatorun təsirlənməsinin elə optimal idarəetmə qanunu təyin olunmuşdur ki, reaktiv gücün optimal axını hesabina elektrik enerji itkiləri minimuma endirilmiş olsun. Aktiv gücə gəldikdə isə, onun idarəetmə strategiyası tam aydındır: işlədicilərin aktiv güc üzrə yük qrafiki hər şeydən öncə kiçik su elektrik stansiyasının istehsal etdiyi aktiv güc hesabına, bu kifayət etmədikdə enerjisistemindən hava xəttləri vasitəsilə əlavə cərəyan hesabına ödənilməlidir, bu reaktiv gücü optimal əlavə cərəyanla ötürülməsi hesabına minimuma endirməyə imkan verir. Elektrik maşının valının sabit yüklənmə halında sinxron maşının təsirlənmə cərəyanının tənzimlənməsi təsirlənmə sistemində və statorun dolaqlarındakı güc itkilərinin dəyişməsinə gətirib çıxarır. Ümumi itkilər aşağıdakı kimi təyin olunur:

$$\Delta p_g = \frac{(\beta^2 \cdot P_n^2 + \alpha^2 \cdot Q_n^2) \cdot R}{U^2} + \frac{R_f}{x_{ad}^2}\left[\frac{x_d \cdot x_q}{U^2}(\beta^2 \cdot P_n^2 + \alpha^2 Q_n^2) + \alpha(x_d + x_q) \cdot Q_n + U^2\right] \cdot [1 + R(Q)]$$

Burada, $a = \frac{Q}{Q_n}$ – reaktiv güc üçün yüklənmə əmsalı; $\beta = \frac{P}{P_n}$ – aktiv güc üçün yüklənmə əmsalı;

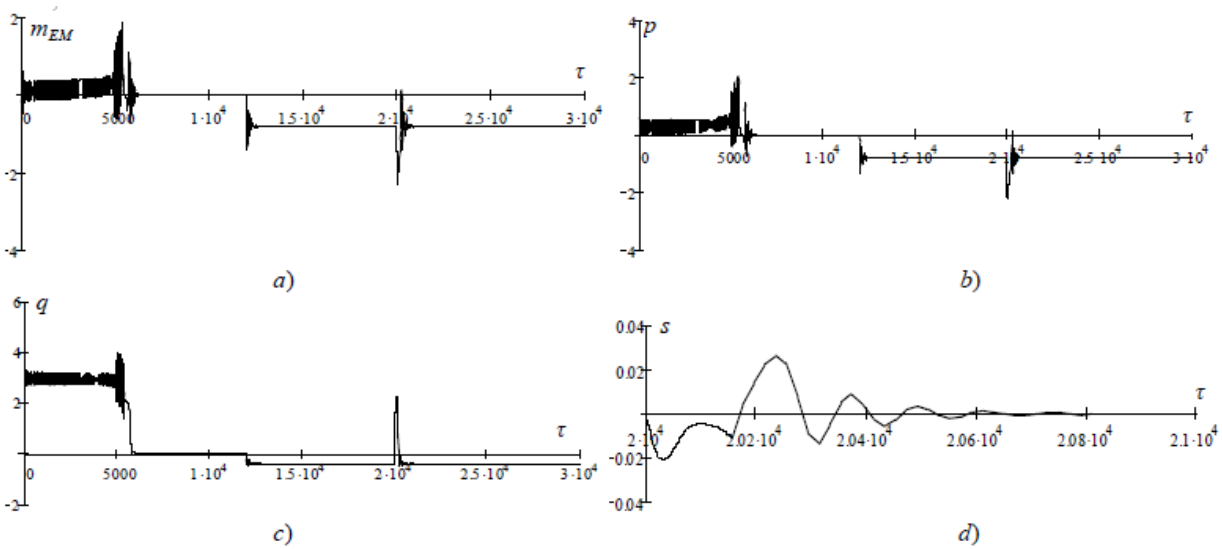
P_n – generatorun nominal aktiv gücü; Q_n – generatorun nominal reaktiv gücü; U – generatorun xətt gərginliyidir; x_d – d-oxu üzrə sinxron induktiv müqavimət; x_{ad} – d-oxu üzrə öz-özünə induksiya müqaviməti;

x_q – q oxu üzrə sinxron induktiv müqavimət; R – lövbər dolağının aktiv müqaviməti; R_f – lövbər dolağının aktiv müqavimətinin statorun təsirlənmə dolağına gətirilmiş, çevrilmiş toplananı proyeksiyası; $R(Q)$ – sinxron maşının görünən qütblü olmasını göstərən əmsaldır.

Digər tərəfdən sinxron generatorun təsirlənməsini tədqiq etmək üçün onun tənliklər sisteminə nəzər yetirilməlidir. Generatorun çıxış reaktiv gücünü azaldarkən onun dəyəri nominaldan daha kiçik olur və minimum elektrik enerjisi itkisi ilə müəyyən edilir. Bunu yoxlamaq üçün generatorun tam riyazi modelindən istifadə etmək lazımdır:

$$\begin{cases}
\rho\psi_{ds} = -U_s \cdot \sin\theta + \Psi_{qs} \cdot (1-s) - 0{,}02 \cdot i_{ds} \\
\rho\psi_{qs} = U_s \cdot \cos\theta - \Psi_{ds} \cdot (1-s) - 0{,}02 \cdot i_{qs} \\
\rho\psi_{dr} = -0{,}028 \cdot \Psi_{dr} + 0{,}022 \cdot i_{ds} + 0{,}022 \cdot i_{df} \\
\rho\psi_{qr} = -0{,}027 \cdot \Psi_{qr} + 0{,}0117 \cdot i_{qr} \\
\rho\psi_{qr} = -0{,}057 \cdot U_{df}^{*} - 0{,}045 \cdot i_{df} \\
\rho s = 0{,}001 \cdot m_{HT} - 0{,}001 \cdot m_{EM} \\
\rho\theta = s \\
m_{EM} = \Psi_{ds} \cdot i_{qs} - \Psi_{qs} \cdot i_{ds} \\
i_{ds} = 3{,}23 \cdot \psi_{ds} - 1{,}12 \cdot \psi_{df} - 1{,}65 \cdot \psi_{dr} \\
i_{qs} = 2{,}745 \cdot \psi_{qs} - 1{,}7 \cdot \psi_{qr} \\
i_{df} = 2{,}47 \cdot \psi_{df} - 1{,}12 \cdot \psi_{ds} \cdot 1{,}07 \cdot \psi_{dr}
\end{cases}$$

Nisbi vahidlərdə p = 0,784-ə bərabər olan generatorun nominal aktiv gücünün cosϕ=0,94 olan halı üçün reaktiv güc q = 0,373-ə bərabər olacaq. Bu rejim U_f=1,58 bərabər olan təsirlənmə gərginliyinə uyğundur. Bu və digər iş rejiminin parametrləri şəkil 1-dəki fluktoqramlarda verilmişdir.



Şəkil 1. Sinxron generatorun iş rejiminin parametrlərinin dəyişməs fluktoqramları

İşlədicinin reaktiv gücü nisbətən kiçik intervalda dəyişdikdə generatorun reaktiv gücünü reaktiv yükdən asılı olaraq tənzimləmək məqsədəuyğun deyil. Bu halda generator üçün reaktiv gücün elə qiyməti tapılmalıdır ki, bu qiymət dəyişməz qaldığı halda, reaktiv yükün maksimum və minimum qiymətlərində misal üçün 5%-dən artıq ümumi güc itkilərinə gətirib çıxarmasın. Təbii ki, bu cür rejim kvazioptimal sayılır.

Yuxarıda baxılmış misalın hesabatına əsasən generatorun reaktiv gücü Q_{gen}=2800 kVAr=const. Belə olan halda ümumi itkilərin təyin olunması üçün nəzərdə tutulmuş optimal diaqramla müqaisədə maksimum yüklənmə halında (Q=4000 kVAr) ümumi itkilər Δ=0,46%, minimum yüklənmə halında isə ümumi itkilər Δ=3,2% təşkil edir ki, bu da mühəndis hesabatları üçün tamamilə qəbulolunan sayıla bilər. Beləliklə, reaktiv yükün orta qiymətə nəzərən nisbətən kiçik yırğalanmaları halında kvazioptimal rejimlə də keçinmək olar. Bu halda generatorun reaktiv gücü dəyişməz qalar və bu rejimdə xətalar minimum olaraq qalar və 5% həddini keçməz.

Nəticə

Enerji sistemin elektrik veriliş xətti ilə eyni vaxtda yükü təmin edən kiçik gücə malik Su Elektrik Stansiyasının generatoru üçün reaktiv gücün optimal dəyəri müəyyən edilir ki, bu zaman nəzərdə tutulan yük qovşağında reaktiv enerji mübadiləsindən elektrik enerjisi itkilərinin minimuma endirilməsinə nail olunur.

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Rəqəmsallaşmanın yüngül sənaye müəssisələrinin davamlı inkişafına təsiri

Dəmirova Aygül Akif qızı
Azərbaycan Kooperasiya Universiteti, doktorant
e-mail:aygul.demirova65@mail.ru

Xülasə

Məqalədə rəqəmsallaşmanın yüngül sənaye müəssisələrinin davamlı inkişafına təsiri araşdırır. Burada ənənəvi üsulların tətbiqi ilə müqayisədə rəqəmsalllaşmanın yüngül sənayedə məhsul istehsalında tətbiq edilməsinin istehsal olunan məhsulların keyfiyyətinin, çeşidinin, məhsuldarlığının, rentabellik səviyyəsinin yüksəldilməsində rolu geniş şərh edilmişdir. AZərbaycan Respublikasının statistik məlumatları əsasında yüngül sənaye məhsullarının 2028-2023-cü illəər üzrə dinamikası təhlil edilərək qiymətləndirilmişdir.
Açar sözlər: yüngül sənaye, rəqəmsal iqtisadiyyat, istehsal xərci. rentabellik,, rəqabət qabiliyyəti, rəqəmsallaşma..

Giriş

Rəqəmsal iqtisadiyyatının inmişafının indiki mərhələsində müasir istehlakçılar brend və məhsullar seçərkən həmişə öz hüquqlarını müdafiə etməklə çıxış edirlər. Burada ilkin olaraq yalnız müəyyən bir məhsulun keyfiyyəti deyil, eyni zamnda həmin məhsulun istehsalına sərf edilən materialların mənbəyini, emal mərhələsini və nəhayət istehlakçının qapısına çatdırılmasını əhatə edir. Qeyd etmək lazımdır ki, ənənəvi təchizat zəncirləri ətraf mühitə çox mənfi təsir göstərir və emissiyaların, tullantıların və resurs çatışmazlığının göstərdiyi problemləri yaradır. Bu baxımdan da, təchizat zəncirlərinin səmərəliliyini artırarkən, xərcləri azaltmaqla bu mürəkkəb şəbəkələrin ətraf mühitə təsirini azaldan həll yollarının tapılması zərurəti yaranır. Bunun həli isə süni intellekt ilə mümkündür. Suni intellekt (Sİ) kimi güclü texnologiya təchizat zəncirinin idarə edilməsini (SCM-i) dəyişməyə başlayaraq, mövcud biznes mühitini dəyişdirə və davamlı təchizat zəncirlərində süni intellektdən istifadə edərək daha dayanıqlı yanaşmalar yarada bilər. Qeyd edək ki, təchizat zəncirinin idarə edilməsi (SCM) müəssisənin xammalın alınmasından hazır məhsulun çatdırılmasına qədər bütün istehsal axınının koordinasiyasıdır.

Əsas hissə. Bir çox sənaye sahələrini əhatə edən lakin yüngül sənaye sahələri əsasən toxuculuq, gön-dəri istehsalı, geyim və ayaqqabı istehsalı sahələrini əhatə edir. Hər il toxuculuq fabrikləri yüzlərlə kilometr parça istehsal edir. Əhalinin daim dəyişən moda meylləri yeni xüsusi geyim formaları daha yüksək keyfiyyət tələb edir. Geyim və ayaqqabı sənayesində sürətlə baş verən dəyişikliklər, yüngül sənaye məhsulları bazarını da sürətlə dəyişdirir. Surətlə dəyişən bazar istehsaldan da eyni reaksiyanı tələb edərək, istehsalın inkişafını şərtləndir. Əks təqdirdə, əhalinin tələbatını ödəməyən məhsullar itkilərin coxalmasına səbəb olaraq, gəlirdən çox ola bilər. Bu baxımdan iqtisadiyyatın digər sahələrində olduğu kimi yüngül sənayedə də rəqəmsal texnologiyaların tətbiqi əsasında yüngül sənayenin transformasiyası inkişafın həlledici amilinə çevrilməkdədir. Rəqəmsal sistemə keçid hesabına istehsal müəssisələri, o cümlədən də yüngül sənaye sahələri müasir şəraitdə indi aşağıdakı imkanlara malikdir [8]:

-məhsul istehsalı və nəqli üzrə xərclərini əhəmiyyətli dərəcədə azaltmaq;

- əmək məhsuldarlığını ən azı 50% artırmaq;

- müəssisənin və istehsal edilmiş məhsulların rentabellik səviyyəsini artırmaq;

- məhsulun keyfiyyətini yaxşılaşdırmaq;

- məhsulun çeşidini şaxələndirmək;

- bazarda rəqabətə davamlılığı möhkəmləndirmək;

- bir çox proseslərin optimallaşdırılması. Xüsusən də yeni məhsulun hazırlanması, ideyadan mağaza rəfinə qədər sərf edilən vaxtın azaldılması;

-məhsulları fərdi yönümlü etmək.

Rəqəmsallaşma əsasən üç mərhələni əhatə edir: Proqram təminatı ilə idarə olunan avadanlığın, həmçinin robot texnikasının tətbiqini nəzərdə tutan

istehsal prosesinin avtomatlaşdırılması. Demək olar ki, bütün ixtisaslaşmış müəssisələr bu mərhələni keçərək istehsalın optimal idarəedilməsinə nail olurlar [5,6].

Rəqəmsallaşmanın 1-ci mərhələsi müəssisənin avtomatlaşdırılmış avadanlıqları və robot sistemlərinin vahid şəbəkədə birləşdirildiyi və proqram təminatı ilə inteqrasiya olunduğu birbaşa rəqəmsallaşmanı əhatə edir.

2-ci inkişaf mərhələsində məhsulların mağazaya çatdırılmasına qədər istehsal prosesinə tam nəzarət qurulan vahid qapalı rəqəmsal sistem əsasında formalaşır. Burada insanların iştirakı azalsa, da hələ də mövcuddur. Qeyd edək ki, Azərbaycanda rəqəmsallaşmanın bu səviyyəsini tam mənimsəmiş yüngül sənaye müəssisələrinin sayı hələ də azdır.

3-cü mərhələ, əksər texnoloji qərarların süni intellekt tərəfindən veriləcəyi idarəetmə zəncirinin tam şəkildə rəqəmsala köçürülməsini nəzərdə tutur. Məsul şəxs proqram təminatının təkmilləşdirilməsi, proqram təminatının əlavə variantlarla təmin edilməsi, həmçinin rəqəmsal sistemlərin düzgün işləməsinə nəzarət etmək üçün məsuliyyət daşıyır.

Yüngül sənaye sektorunda bir çoxlu əməliyyatlar mövcuddur ki, onların avtomatlaşdırılması müəssisələrin işinin səmərəliliyini artırır. Bu yaxınlara qədər yalnız əl ilə həyata keçirilən kəsmə, presləmə, tikiş, yığma və s. işləri indi robot sistemlərə və digər avtomatik cihazlara keçirmək mümkündür. Bu əsasn aşağıda qeyd edilən bir çox üstünlüklərin əldə olunmasına şərait yaradı [3,4]r:

-istehsal sürətinin artması;

-səhvlər ehtimalını azaltmaq;

-yeni dizayn yaratmaq üçün tələb olunan vaxtın azaldılması, modellərin sınaqdan keçirilməsi.

Qeyd etmək lazımdır ki, yüngül sənaye sahələrində müəssisənin fəaliyyəti ikə bağlı düzgün və vaxtında işgüzar qərarlar qəbul etmək üçün , bu qərarların müsbət nəticəsi məsədi ilə aktual və real məlumatlar tələb olunur. Rəqəmsal texnologiyalar müxtəlif mənbələrdən məlumat toplamaq, onları təhlil və emal etmək, eləcə də sistemləşdirmək üçün ən yaxşı üsuldur. Bütün bunların nəticəsində qərar qəbul edən şəxs üçün aşağıda qeyd edilən imkanlar yaranır:

-riskləri daha səmirəli idarə edilməsi;

- bütün xərcləri optimallaşdırılması;

-verilənlər bazasında toplanmış qeyri-müəyyən nümunələrin aşkar edilmsi;

- məhsula tələb proqnozlarınınhazırlanması;

-dövriyyə kapitalının dondurulmasının azaldılması;

-anbarda yaranan artıq ehtiyatların yaranma səbəbləri və onun yaranmasının qarşısının alınması;

-yüksək tələbat olan hazır məhsulların çatışmazlığı səbəbindən mənfəətin itirilməməsi.

Qeyd etmək lazımdır ki, yüngül sənaye müəssisələrində rəqəmsal transformasiyanın inkişaf etdiyi şəraiitdə 1C: Analitika, Microsoft Power BI və SAP Business Object. kimi proqramlardan geniş şəkildə istifadə edilir:

Araşdırmalar göstərir ki, yüngül sənayedə çapın (rəngləmənin) 90%-i hələ də ənənəvi üsullarla - ekran, analoq, sublimasiya üsulu ilə həyata keçirilir. Rəngləmənin 4% də isə hallarda parçalar əl ilə rənglənir. Yüngül sənayedə 6% rəqəmsal çapdan istifadə olunur. Tələbin az olmasının səbəbi texnologiyanın gəncliyidir. Onun daha geniş yayılması üçün daha çox vaxt lazımdır [6,7]

Qeyd etmək lazımdır ki, azərbaycanda da, rəqəmsal iqtisadiyyatın inkkişaf etməsinə baxmayaraq yengül sənaye sahələri üzrə istehsal prossesində tam tətbiq edilmir. Bu isə istehsalın məhsuldarlığına və keyfiyyətinə əssı şəkildə təsir edir. Aşağıdakı cədvəldən bunlar daha aydın görmək olar

Cədvəl 1. Azərbaycanın yüngül sənaye məhsullarının 2018-2023-cüillər üzrə dinamikası

Məhsulların adları	2018	2019	2020	2021	2022	2023
Xalça, min kv.metr	2,4	3,0	1,3	13,0	5,6	3,5
Corab məmulatları, min cüt	2367,8	3248,9	2993,0	3078,7	3752,8	4222,5
Üst geyim, min ədəd	469,9	521,5	765,4	863,6	946,9	683,2
Alt geyim, min ədəd	597,4	556,3	529,8	560,8	796,8	940,6
Aşılanmadan başqa digər emala məruz qalmayan dəri, ton	1581,5	1944,3	716,2	3301,4	4344,7	3936,5
Ayaqqabı, min cüt	186,6	190,3	544,2	1214,0	1405,0	749,7
Emal edilmiş dəri, min kv. metr	53,9	53,5	65,2	60,2	55,4	64,1

Mənbə. (9) məlumatları əsasında tərtib edilmişdir.

Cədvəldən göründüyü kimi xalça istehsalı Azərbaycanda 2021-ci ildən sonra azalaraq 3,5 min kvş metr olmuşdur. Corab məmulatları isə artan dinamika ilə inkişaf edərək 2023-cü ildə 4222,5 min cüt təşkil etmişdir. Ayaqqabı istehsalı isə 2022-ci ilədək artsa da, 2023-cü ildə 46,6% və yaxud 655,3 min cüt azalaraq 749,7 min çüt olmuşdur. Araşdırmalar göstərir ki, yüngül snaye sahələrində rəqəmsal iqtisadiyyatın zəif tətbiq edilməsi ənənəvitexnologiyalar üzrə müəssisələrin fəaliyyət göstərməsi bu sektorun inkişafını ləngidərək, yüngül sənaye məhsulları üzrə ölkə iqtisadiyyatına olan tələbin idxaldan asılılığını əsaslı surətdə artırır.

Nəticə

Tədqiqat nəticəsində müəyyən edilmişdir ki, rəqəmsal transformasiya şəraitində

Yüngül sənaye sahələri müəssisələrinin rəqəmsal sistemə keçidi müasir şəraitdə istehsal edilən məhsulların çeşidinin, keyfiyyətinin və əmək məhsuldarlığının 50%-dən çox artmasını şərtləndirərək, məhsulun rəqabət qabiliyyətini artırmaqla bərabər, ölkə iqtisadiyyatının yüngül sənaye məhsullarına olan tələbatının ödənilməsində idxldan asılılığı azalda bilər.

İstinadlar

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Влияние цифровизации на устойчивое развитие предприятий легкой промышленности

Демирова Айгуль Акиф кызы

Азербайджанский университет кооперации, докторант
электронная почта:aygul.demirova65@mail.ru

Аннотация

В статье рассматривается влияние цифровизации на устойчивое развитие предприятий легкой промышленности. Здесь подробно объяснена роль применения цифровизации в производстве легкой промышленности в повышении качества, ассортимента, производительности и рентабельности выпускаемой продукции по сравнению с применением традиционных методов. На основе статистических данных Азербайджанской Республики проанализирована и оценена динамика продукции легкой промышленности за 2028-2023 годы.

Ключевые слова: легкая промышленность, цифровая экономика, себестоимость продукции. прибыльность, конкурентоспособность, цифровизация.

The impact of digitalization on the sustainable development of light industry enterprises

Demirova Aygul Akif kizi

Azerbaijan University of Cooperation, PhD student
e-mail: aygul.demirova65@mail.ru

Abstract

The article examines the impact of digitalization on the sustainable development of light industry enterprises. It explains in detail the role of digitalization in the production of light industry in improving the quality, range, productivity and profitability of manufactured products compared to the use of traditional methods. Based on the statistical data of the Republic of Azerbaijan, the dynamics of light industry products for 2028-2023 were analyzed and assessed.

Keywords: light industry, digital economy, cost price. profitability, competitiveness, digitalization.

Təchizat zəncirinin optimallaşdırılmasında süni intellektin rolu

Kənan Telman oğlu FƏDANİ
Azərbaycan Dövlət Neft və Sənaye Universitetinin doktorantı
E-mail: kenan.fedani@gmail.com

Xülasə
Məqalədə rəqəmsal transormasiya şəraitində təchizat zəncirinin optimallaşdırılmasında süni intellektin rolu və iqtisadi əhəmiyyəti araşdırılmışdır. Burada ənənəvi ənənəvi təchizat zəncirlərinin tətbiqinin ətraf mühitə mənfi təsirləri izah edilərək qiymətləndirilmişdir. Məqalədə ənənəvi təchizat zəncirlərindən fərqli olaraq, suni intellekt kimi güclü texnologiyanın təchizat zəncirinin optimal idarə edilməsində rolu şərh edilmişdir.

Açar sözlər: süni intellekt, təchizat zənciri, rəqəmsal iqtisadiyyat, karbon-oksid, texnologiya, davamlılıq.

Giriş

Rəqəmsal iqtisadiyyatının inmişafının indiki mərhələsində müasir istehlakçılar brend və məhsullar seçərkən həmişə öz hüquqlarını müdafiə etməklə çıxış edirlər. Burada ilkin olaraq yalnız müəyyən bir məhsulun keyfiyyəti deyil, eyni zamnda həmin məhsulun istehsalına sərf edilən materialların mənbəyini, emal mərhələsini və nəhayət istehlakçının qapısına çatdırılmasını əhatə edir. Qeyd etmək lazımdır ki, ənənəvi təchizat zəncirləri ətraf mühitə çox mənfi təsir göstərir və emissiyaların, tullantıların və resurs çatışmazlığının göstərdiyi problemləri yaradır. Bu baxımdan da, təchizat zəncirlərinin səmərəliliyini artırarkən, xərcləri azaltmaqla bu mürəkkəb şəbəkələrin ətraf mühitə təsirini azaldan həll yollarının tapılması zərurəti yaranır. Bunun həlli isə süni intellekt ilə mümkündür. Suni intellekt (Sİ) kimi güclü texnologiya təchizat zəncirinin idarə edilməsini (SCM-i) dəyişməyə başlayaraq, mövcud biznes mühitini dəyişdirə və davamlı təchizat zəncirlərində süni intellektdən istifadə edərək daha dayanıqlı yanaşmalar yarada bilər. Qeyd edək ki, təchizat zəncirinin idarə edilməsi (SCM) müəssisənin xammalın alınmasından hazır məhsulun çatdırılmasına qədər bütün istehsal axınının koordinasiyasıdır.

Əsas hissə

Qlobal təchizat zənciri təchizatçılar, istehsalçılar, distribyutorlar, pərakəndə satıcılar, topdansatışçılar və müştərilərdən ibarət mürəkkəb şəbəkə olduğundan onun idarəedilməsində Sİ-in rolu böyük əhəmiyyət kəsb edir.

Araşdırmalar göstərir ki, ilk növbədə təchizat zəncirinin səmərəliliyi və xərclərin azaldılması yolu ilə klassik ənənəvi təchizat zənciri modelinin genişləndirilməsi ətraf mühitə əhəmiyyətli dərəcədə mənfi təsir göstərmişdir [3,4]. Qeyri-davamlı olaraq inkişaf edən ənənəvi təchizat zəncirlərində yaranan xüsusi problemləri aşağıdakı kimi xarakterizə etmək olar:

- ənənəvi təcrübələrdən istifadə etməklə qurulan təchizat zəncirləri əhəmiyyətli miqdarda istixana qazı emissiyaları buraxır. Bu emissiyalar əsasən istehsal və daşıma prossesində, eləcə dəməhsulların saxlanması və paylanmasında özünü daha dolğun şəkildə göstərir.
- nəqliyyat vasitələrindən, xüsusən də yük maşınları, gəmilər və təyyarələr kimi uzun məsafələrə yüklərin daşınması üçün istifadə edilən qaz emissiyaları havanın çirklənməsinə və qlobal istiləşməyə daha güclütəsir göstərir.
- böyük sənaye sahələri öz istehsal fəaliyyətlərində böyük miqdarda enerji istifadə edirlər və onların əksəriyyəti karbon-oksid (CO_2) buraxan qalıq yanacaqlardan istifadə edir.
- qüsurlu saxlama, quru terminallar və bir anbardan digərinə lazımsız daşınma da emissiyaların artmasına şərait yaradır.

Araşdırmalar göstərir ki, müasir dünya planetinin bütün növ ehtiyatlarından istifadə etmək meylinin artması böyük həyəcan doğurur. Ənənəvi təchizat zəncirləri daha tez-tez problemlərlə qarşılaşır. Bu problemlərə əsasən ilkin olaraq aşağıdakılar daxildir [3]:

1. Həddindən artıq hasil edilmiş xammal. Mədən, ağac kəsimi və ehtiyatların çıxarılması üçün torpaqların təmizlənməsi meşələrin və digər təbii yaşayış yerlərinin məhv edilməsi ilə nəticələnir ki, bu da indiki şəraitdə və gələcəkdə insan kapitalının inkişafına mənfi təsirlə nəticələnir.
2. Ekoloji tullantıların yaranması. Təhlükəli qablaşdırma materialları, istehsal tullantıları və istehsal xəttinin keyfiyyətsiz idarə

olunması bərk tullantılarla nəticələnir ki, bu da zibilxanaların yaranmasına səbəb olur.

3. Sudan səmərəsiz istifadə: Bəzi sənayelər böyük həcmdə su istifadə edir ki, bu da ərazidə su təchizatı üçün problemlərlə nəticələnir.
4. Çirklənmənin yaranması. Ənənəvi təchizat zəncirlərinin tətbiqi ilə çirklənmənin həcmi daha çox artır və bu çirklənmə aşağıdakı sferaları əhatə edir..

- Havanın çirklənməsi: Müxtəlif qazlar buraxan sənaye müəssisələri və nəqliyyat vasitələrinin tüstüsü insan sağlamlığına və ətraf mühitin keyfiyyətinə təsir göstərir.
- Suyun Çirklənməsi: Sənaye müəssisələrinin maye çirkab suları su mənbələrini çirkləndirir və axın və çayların həyatına mənfi təsir göstərə bilər.
- Torpağın çirklənməsi: Torpağın çirklənməsi tullantıların torpağa düzgün atılmaması və sənaye müəssisələri tərəfindən həyata keçirilən xüsusi fəaliyyətlər nəticəsində yaranır.

Yuxarıda qeyd edilən bu kimi qeyri-davamlı ənənəvi üsul artıq müasir dövrün tələblərin demək olar ki, cavab vermir. Bu baxımdan da, yuxarıda qeyd edilən problemə daha davamlı yanaşmaya ehtiyac yaranmışdır. Bu problemlər təchizat zəncirinin davamlılığı üçün böyük manelər yaradır və Sİ onları həll etmək və daha yaxşı təchizat zənciri mühiti yaratmaq imkanını yaradır [2]. Bu imkanlar əsasən aşağıdakıları əhatə edir:

1.Davamlılığın təmin edilmisi üçün Sİ-nin tətbiqi.

Təchizat zəncirinin ənənəvi formasından son nəticədə ətraf mühitə zərər vuran bir neçə giriş-çıxış transformasiya addımları ilə mütəşəkkil, lakin qapalı xətti zəncir yaradır. Süni intellekt bu məkanı araşdırır və bu prosesləri daha dayanıqlı hala gətirərək yenidən düşünməyə kömək etmə qabiliyyətinə malikdir.Bütün bunlar Sİ-in tətbiqi ilə təchizat zənzirinin səmərəliliyinin yüksəlməsini şərtləndirir. Ən mühüm məsələlərdən bir Sİ tətbiqi ilə təchizat zənzirinin optimallaşdırılmasıdır. Bu əsasən süni intellektə əsaslanan tələbin proqnozlaşdırılması imkanınınyaranmasına da müsbət tsir edir. Ənənəvi proqnozlaşdırma metodologiyaları keçmiş məlumatlara əsaslanır, bu da tam dəqiq olmaya bilər; beləliklə, məhsulların həddindən artıq yığılmasına səbəb olurlar. Süni intellekt tələbi daha yaxşı proqnozlaşdırmaq üçün bazarn inkişaf meyilləri, sosial media təəssüratları, həmçinin bəzi proqnozlaşdırılan hava dəyişiklikləri kimi daha çox amilləri nəzərə ala bilər. Bu, həm də müəssisələr satıla bilməyən mallar istehsal etmədiyi üçün lüzusuz xərcləri aradan qaldırır və satıla bilməyən malların həddindən artıq istehsalı nəticəsində yaranan çirklənmənin həcmini azaldır.

Sİ əsasüstünlüklərindən biri də, ağıllı logistika və marşrutun optimallaşdırılmasıdır. Müəyyən bir bölgədə real vaxtın müəyyən edilməsi trafik vəziyyətini, cari hava şəraitini və nəqliyyat vasitələrinin yanacaq sərfiyyatını nəzərə alaraq, Sİ əsasən yüklərin çatdırılması üçün optimal marşrutların hərəkət sxemini, daha doğrusu xəritəsini tərtib edə bilər. Bu, avtomobilin faydalı yük olmadan hərəkətdə olduğu vaxtı azaldır, bu da öz növbəsində yanacaq sərfiyyatını və buna görə də karbon qazı emissiyasını azaldaraq ətraf mühitin çirklənməsinin qarşısını almış olur. Eyni zamnda, süni intellekt məhsulların saxlama yerini idarə edə və yığma sistemini elə təşkil edə bilər ki, daxili nəqliyyat və forkliftlər kimi yanacaqla işləyən avadanlıqların istifadəsi azalsın və bununla da enerji istehlakı azalmış olar. Sİ enerji istehlakının azaldılmasında əsaslı rol oynayır. Bu istiqamәttdə süni intellekt həmçinin avadanlığın müxtəlif hissələrinin real vaxt rejimində fəaliyətinin izləməyə davam edərkən uğurlu və yaxud uğursuz ola biləcəyini proqnozlaşdıra bilər. Bu, nasaz hissə və ya avadanlığın təmiri zamanı tez-tez əlavə enerji sərfiyyatı ilə nəticələnən nasazlıqların qarşısını almaqla yanaşı, optimallaşdırılmış aparatın əməliyyat zamanı minimum enerji səviyyəsini nəzərdə tutduğundan enerji sərfiyyatı əhəmiyyətli dərəcədə azalır.

Qeyd etmək lazımdır ki, Sİ bərpa olunan enerjiyə keçidin səmərəliliyini daha da artırır. Azərbaycan iqtisadiyyatının müxtəlif sahələrində Sİ texnologiyalarının tətbiq edilməsi təchizat zəncirininin optimallaşdırılması və iqtisadi artımın əldə olunması istiqmətində mühühm əhəmiyyət kəsb edir. Son dövrlərdə bu texnologiyaların tətbiqi ilə SOCAR-da hasilatın həcmi ənənəvi texnologiyalarla müqayisədə əsaslı şəkildə artmışdır [5]. Azərbaycanın Milli Prioritetlərində də, süni itellektin inkiaşf etdirilməsi əsas həfəflərdən biri kimi mühühm əhəmiyyətə malikdir [1]. Süni intellekt enerjinin təchizat zəncirində necə istifadə edildiyini və külək və ya günəş enerjisi kimi bərpa olunan enerji mənbələrinin harada və nə dərəcədə adekvat ola biləcəyini anlamağa kömək edə bilər. Bundan əlavə, süni intellekt anbarlarda və istehsal müəssisələrində işıqlandırma, isitmə və soyutma vasitəsilə enerji istifadəsinə nəzarət etməyə kömək edərək, qalıq yanacaqlardan asılılığı azaltmağaşərait yaradır..

Nəticə

Tədqiqat nəticəsində müəyyən edilmişdir ki, rəqəmsal transformasiya şəraitində insan kapitalınnı inkişafı bu sahəyə yönəldilən investisiya qoyuluşundan əsaslı surətdə asılıdır. İnsan kapitalına yönəldilən investisiyalar əmək məhsuldarlığının artmasına töhfə verərək, insanın gəlirinin artırılmasını

şərtləndirməklə əhalinin sosial-iqtisadi inkişafında mühüm rol oynayacaqdır. Bu baxımdan da, yuxarıda qeyd edilən insan kapitalına yönəldilən investisiyaların strukturu üzrə xərclərin artırılması ölkə iqtisadiyyatının inkişafında əsaslı rol oynaya bilər.

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Роль искусственного интеллекта в оптимизации цепочки поставок

Канан Тельман ФАДАНИ
Азербайджанского государственного университета нефти и промышленности, докторант
Электронная почта:kenan.fedani@gmail.com

Аннотация

В статье рассматривается роль и экономическое значение искусственного интеллекта в оптимизации цепочки поставок в условиях цифровой трансформации. Здесь объясняются и оцениваются негативные экологические последствия внедрения традиционных цепочек поставок. В статье обсуждается роль мощных технологий, таких как искусственный интеллект, в оптимальном управлении цепочками поставок, в отличие от традиционных цепочек поставок.

Ключевые слова: искусственный интеллект, цепочка поставок, цифровая экономика, углекислый газ, технологии, устойчивость.

The role of artificial intelligence in supply chain optımization

Kanan Telman FADAN
PhD student of Azerbaijan State Oil and Industry University
Email:kenan.fedani@gmail.com

Abstract

This article examines the role and economic significance of artificial intelligence in supply chain optimization in the context of digital transformation. It explains and evaluates the negative environmental impacts of traditional supply chain implementation. The article discusses the role of powerful technologies such as artificial intelligence in optimal supply chain management, as opposed to traditional supply chains.

Keywords: artificial intelligence, supply chain, digital economy, carbon dioxide, technology, sustainability.

Rəqəmli tranformasiya şəraitində insan kapitalına yönəldilən investisiyalar

Məmmədova Ürfanə İsmayıl qızı
Azərbaycan Dövlət Neft və Sənaye Universiteti, doktorant
E-mail: urfanemva@gmail.com
https://orcid.org/0009-0003-2865-636

Xülasə

Məqalədə rəqəmsal transormasiya şəraitində insan kapitalına yönəldilən investisiya qoyuluşunun strukturu şərh edilir. Burada, sosial-iqtisadi siyasətin həyata keçirilməsi üçün yeni yanaşmaların və mexanizmlərin inkişafı, insan kapitalının mövcud nəzəriyyələrinin işlənib hazırlanmasının zəruri əhəmiyyəti qeyd edilmişdir. Məqalədə həmçinin, insan kapitalına qoyulan investisiyalar təsnifatlaşdırılmış və statistik mənbələr əsasında dövlət büdcəsindən Azərbaycan Respublikası üzrə səhiyyə, sosial müdafiə və sosial təminata yönəldilən xərclər təhlil edilmişdir.

Açar sözlər: insan kapitalı, investisiya, dövlət büdcəsi, səhiyyə, büdcə, xərc, bilik iqtisadiyyatı.

Giriş

Hər bir ölkədə həyata keçirilən istənilən formalı sosial-iqtisadi siyasətin əsasını əldə olunan iqtisadi inkişafın nəticələrinin sosial inkişafa yönəldilməklə bilik iqtisadiyyatısinin təmin edilməsidir.Müasir qlobal dünya iqtisadiyyatında iqtisadi inkişafın modernləşdirilməsi amili kimi insan kapitalının əhəmiyyəti kəskin şəkildə daima artır. İndiki şəraitdə cəmiyyətin yeni iqtisadiyyata, yəni bilik iqtisadiyyatına keçid prosesi surətlə davam edir. Bilik iqtisadiyyatı sənayedən sonrakı iqtisadiyyatın və sənayedən sonrakı cəmiyyətin ən yüksək təzahür formasından biridir [1; 2]. İnsan potensialı ölkə əhalisinin keyfiyyətinin ayrılmaz göstəricisidir. Onun əsas komponentləri millətin sağlamlığının, eləcə də təhsilin səviyyəsinin və keyfiyyətinin göstəriciləridir.

Əsas hissə

Bilik qeyri-maddi ehtiyyat kimi, insan kapitalının qlobal əmək bazarında əsas rəqabət üstünlüyünə çevrilən ən mühüm göstəricisidir. İqtisadi transformasiya şəraitində müəssisələrin qeyri-maddi aktivlərinin əhəmiyyəti dinamik surətdə artır və hazırkı şəraitdə onun dəyəri, orta dəyəri bazar dəyərinin 75%-dən çoxunu təşkil edir. Qeyri-maddi aktivlərin strukturunda əsasən insan kapitalı aparıcı rol oynayır. İnsan kapitalının yaradılması və fəaliyyəti bu gün təkcə kapital məsrəfləri baxımından deyil, həm də ictimai-siyasi aspekt baxımından əsas problemlərdən biridir [2]. Ölkənin səmərəli iqtisadi inkişafı bir çox amillərdən, o cümlədən dövlətin sosial-iqtisadi siyasətinin uğurundan asılıdır. Sosial-iqtisadi siyasətin həyata keçirilməsi üçün yeni yanaşmaların və mexanizmlərin inkişafı ilə yanaşı, insan kapitalının mövcud nəzəriyyələrinin işlənib hazırlanması zərurəti getdikcə daha aydın görünür. İnsan kapitalı ilə bağlı araşdırmalar gəlir, yaş, cins, təhsil kimi parametrləri əhatə edir, lakin fərdlərin psixoloji xüsusiyyətlərinə burada lazımi diqqət yetirilmir. Hesab etmək olar ki, həm fərdi, həm də qrup səviyyəsində əhəmiyyətli psixoloji fərqlər müşahidə olunur və bu da bir ölkədən digərinə dəyişir. Ona görə də insanların psixoloji xüsusiyyətləri sosial-iqtisadi inkişafın amillərindən biri kimi nəzərə alınmalıdır. Psixoloji tədbirlərin müntəzəm sosial-iqtisadi təhlilə daxil edilməsinə əsas maneə, psixoloji xüsusiyyətləri ölçmək üçün hər hansı bir cəhdi natamam edən və bu cür tədqiqatların nəticələrinin etibarlılığını azaldan etibarlı empirik məlumatların olmamasıdır. Fərdlərin və əhali qruplarının psixoloji xüsusiyyətlərinin nəzərə alınması nəinki müəyyən makroiqtisadi siyasət tədbirlərinin işlənib hazırlanmasına kömək edə bilər, həm də sosial siyasətin effektivlik səviyyəsini, məsələn, ehtiyacı olanlara ünvanlı yardım vasitəsilə, öz növbəsində yoxsulluğun səviyyəsinin azaldılmasında mühüm rol oynayacaq. İnsan kapitalı nəzəriyyəsi milli sərvət anlayışının geniş şərhi ilə sıx bağlıdır. İnsan kapitalı nəzəriyyəsinə görə, sərvətin əsas formalarından biri insanda maddiləşən və əmək məhsuldarlığını artırmaq üçün istifadə olunan bilikdir. Məsələn, C.Kendrik yeni texnologiyada maddiləşən toplanmış elmi biliyi qeyri-maddi sərvət formaları kimi təsnif edir [3, 4].

Qeyd etmək lazımdır ki, milli sərvətin genişləndirilmiş konsepsiyasına insan sağlamlığına

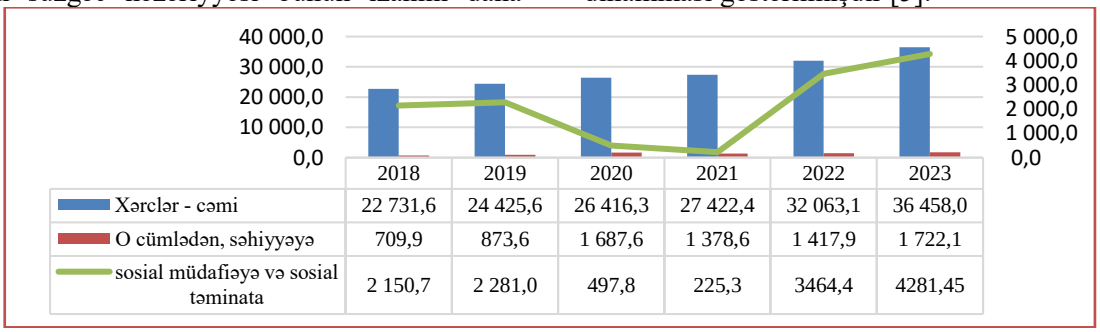
investisiyalar daxildir. İnsan üçün pul və ya digər formada qiymətləndirilə bilən və məqsədyönlü xarakter daşıyan, yəni əmək məhsuldarlığının artmasına töhfə verən və insanın gəlirinin artırılmasına kömək edən bütün növ investisiyalar insan kapitalına qoyulan investisiyalar adlanır [3]. İnsan kapitalına, yəni əmək ehtiyatlarına qoyulan investisiyalar əsasən aşağıdakı kimi təsnifatlaşdırılır:

1. Təhsilə yönəldilən investisiyalar, o cümlədən ümumi və ixtisaslaşdırılmış, formal və qeyri-rəsmi, istehsalatda təlimə çəkilən xərclər;
2. Xəstəliklərin qarşısının alınması, tibbi xidmət və pəhriz qidası ilə bağlı xərclərdən ibarət səhiyyə xərclərinə yönələn investisiyalar;
3. Mənzil şəraitinin yaxşılaşdırılması, sosial təminatların artırılmasına yönələn investisiyalar;
4. İşçilərin nisbətən aşağı məhsuldarlığı olan yerlərdən nisbətən yüksək məhsuldarlığa malik yerlərə miqrasiya etdiyi hərəkətlilik xərcləri ilə bağlı olan investisiyalar [4].

İnsan kapitalının ammortizasiyası onun istifadəsinin ilk illərində baş vermir. Bu onunla izah edilir ki, işçinin fiziki yetkinləşməsi və istehsal təcrübəsinin toplanması səbəbindən onun iqtisadi dəyəri azalmır, əksinə olaraq artır. İlk onillikdə intellektual kapital artır. İkinci onilliyin sonunda əqli kapital ehtiyatının mənəvi və fiziki köhnəlməsinin artım tempi insan kapitalının başqa bir aktivinin - istehsal təcrübəsinin yığılmasını üstələyir. Həmin dövrdən başlayaraq insan kapitalının devalvasiyası prosesi başlayır və üçüncü onilliyin sonuna doğru onun tempi daha da yüksəlir. Əgər fiziki şəxs davamlı olaraq insan kapitalına sərmayə qoyarsa, insan kapitalının dəyərdən düşməsinin surəti azalacaq. K.Arrov, M. Spencenin və L. Thurovun təhsilin əmək və məşğulluq sferasında onların məhsuldar keyfiyyətləri əsasında tələbələrin seçilməsi vasitəsi kimi şərh edilən süzgəc nəzəriyyələribubaxımdan mühühm əhəmiyyətə malikdir. Fərdi işçinin təhsil səviyyəsi ilə onun qazancı arasında müsbət səbəb-nəticə əlaqəsini inkar etmədən süzgəc nəzəriyyəsi bunun izahını daha dolğun verir.

İşçini işə götürən zaman sahibkar öz qabiliyyətləri haqqında heç nə bilmir. İşə götürülənlərin xüsusiyyətləri (cins, yaş, təhsil səviyyəsi) yalnız işəgötürən üçün siqnal rolunu oynayır. Beləliklə də, süzgəc nəzəriyyəsinin başqa adı siqnal nəzəriyyəsidir. Dəyər tez ucuzlaşan və köhnəlmiş yığılmış bilikdə deyil, insanın təhsil testlərindəki qələbələrindədir. Nüfuzlu təhsil müəssisəsinin diplomu ona görə dəyərlidir ki, o, yaxşı bilik verir, əksinə, insan onu həmyaşıdlarından fərqləndirən bir iş görmək qabiliyyətini nümayiş etdirib və bir sıra süzgəclərdən keçib [3]. Rəsmi şəxsiyyətin rəsmi simvolu kimi diplom onun sahibinə hamı tərəfindən tanınmış perspektivləri verir. Həmçinin, müəssisənin akademik maraqlarından çox, real işə düzəlmə şansları getdikcə əhəmiyyət kəsb etməyə başlayır. Məhz bu hal təhsil müəssisəsinin seçiminə təsir edir və sosial fərqləri təkrarlayır [4].

İnsan kapitalı təhsil, səhiyyə, xüsusi təlim və işçi qüvvəsinin hərəkəti ilə bağlı olan xərcləri ifadə edir və ümumi kapitalın bir hissəsini təşkil edir. İnsan kapitalının növləri insan kapitalında məsrəflərin növlərinə görə təsnif edilir. Bu ilkin olaraq, təhsil kapitalı, səhiyyə kapitalı və mədəniyyət kapitalından ibarətdir [4]. Sağlamlıq kapitalı insan kapitalının əsasını təşkil edir və insana onun fəaliyyətini saxlamaq və yaxşılaşdırmaq məqsədi ilə həyata keçirilən investisiyaları təmsil edir [4]. Sağlamlığa qoyulan investisiyalar insanın iş ömrünü uzadır, insan kapitalının ömrünü artırır. İnsanın sağlamlıq vəziyyəti onun təbii kapitalıdır, onun bir hissəsi irsi xarakter daşıyır. Digər hissəsi isə insanın özünün və cəmiyyətin məsrəfləri nəticəsində əldə edilir. Bu baxımdan, Azərbaycan Respublikasında təbii kapitalın qorunmasına çəkilən xərclər insan kapitalının inkişafında mühüm rol oynayaraq əhalinin sosial-iqtisadi inkişafına güclü təkan vermişdir. Aşağıdakı qrafikdə Azərbaycanda dövlət büdcəsi tərfindən səhiyyə, sosial müdafiə və sosial təminat xərclərinin 2018-2023-cü illər üzrə dinamikası göstərilmişdir [5].



	2018	2019	2020	2021	2022	2023
Xərclər - cəmi	22 731,6	24 425,6	26 416,3	27 422,4	32 063,1	36 458,0
O cümlədən, səhiyyəyə	709,9	873,6	1 687,6	1 378,6	1 417,9	1 722,1
sosial müdafiəyə və sosial təminata	2 150,7	2 281,0	497,8	225,3	3464,4	4281,45

Qrafik 1. Azərbaycan Respublikası üzrə dövlət büdcəsinin, səhiyyə, sosial müdafiə və sosial təminat xərclərinin məbləği, mln. manatla

Mənbə. (5) məlumatları əsasında tərtib edilmişdir.

Qrafikdən göründüyü kimi Azərbaycan Respublikası üzrə dövlət büdcəsinin xərclərin məbləği 2018-2023-cü illərdə artan dinamika ilə inkişaf edir. 2023-cü ildə bu xərclərin ümumi məbləği 36458 mln. manat olmuşdur ki, bu da bütün əvvəlki ilərlə müqayisədə yüksəkdir. Azərbaycan Respublikası üzrə dövlət büdcəsinin xərclərinin tərkibində səhiyyə, sosial müdafiə və sosial təminatla bağlı xərclərin məbləği 2021-ci ildə azalsa da, sonrakı illərdə artaraq 2023-cü il üzrə 6 003,6 mln. manat olmuşdur ki, bunun da 1722,1 mlnş manatını səhiyyə xərcləri təşkil etmişdir.

Qeyd etmək lazımdır ki, 2 fevral 2021-ci il tarixində Azərbaycan Respublikasının Prezidenti İlham Əliyevin Azərbaycan 2030: sosial-iqtisadi inkişafa dair Milli Prioritetlərin təsdiq edilməsi haqqında sərəncamına əsasən ölkəmizdə həyata keçirilən məqsədyönlü sosial-iqtisadi islahatlar milli iqtisadiyyatın rəqabətqabiliyətinin daha da möhkəmləndirilməsinə və müasirləşməsinə, əhalinin həyat səviyyəsinin yüksəlməsinə istiqamətlənir. Həmin sərəncama əsasən Azərbaycanın sosial-iqtisadi inkişafına dair 5 əsas Milli Prioritetlərindən biri də rəqabətli insan kapitalı və müasir innovasiyalar məkanın inkişafıdır [1]. Bu istiqamətdə də Azərbaycan Respublikası əhalisinin sosial-iqtsadi inkişafının təmin edilmsi üçün dövlət büdcəsindən əhalinin səhiyyə, sosial müdafiə və sosial təminatları ilə bağlı xərclərinin artırılması istiqamətində uğurlu işlər aparılır.

Nəticə

Tədqiqat nəticəsində müəyyən edilmişdir ki, rəqəmsal transformasiya şəraitində insan kapitalınnı inkişafı bu sahəyə yönəldilən investisiya qoyuluşundan əsaslı surətdə asılıdır. İnsan kapitalına yönəldilən investisiyalar əmək məhsuldarlığının artmasına töhfə verərək, insanın gəlirinin artırılmasını şərtləndirməklə əhalinin sosial-iqtisadi inkişafında mühüm rol oynayacaqdır. Bu baxımdan da, yuxarıda qeyd edilən insan kapitalına yönəldilən investisiyaların strukturu üzrə xərclərin artırılması ölkə iqtisadiyyatının inkişafında əsaslı rol oynaya bilər

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Инвестиции в человеческий капитал в контексте цифровой трансформации

Мамедова Урфане Исмаил кызы

Азербайджанский государственный университет нефти и промышленности, докторант
Электронная почта: urfanemva@gmail.com

Аннотация

В статье анализируется структура инвестиций в человеческий капитал в условиях цифровой трансформации. Здесь подчеркивается важность разработки новых подходов и механизмов реализации социально-экономической политики, развития существующих теорий человеческого капитала. В статье также классифицируются инвестиции в человеческий капитал и анализируются расходы государственного бюджета на здравоохранение, социальную защиту и социальное обеспечение в Азербайджанской Республике на основе статистических источников.

Ключевые слова: человеческий капитал, инвестиции, государственный бюджет, здравоохранение, бюджет, расходы, экономика знаний.

Investments ın human capıtal ın the context of dıgıtal transformatıon

Mamedova Urfana Ismayil kizi
Azerbaijan State University of Oil and Industry, doctoral student
Email: urfanemva@gmail.com

Abstract

The article analyzes the structure of investments in human capital in the context of digital transformation. It emphasizes the importance of developing new approaches and mechanisms for the implementation of socio-economic policies, developing existing theories of human capital. The article also classifies investments in human capital and analyzes state budget expenditures on health care, social protection and social security in the Republic of Azerbaijan based on statistical sources.

Key words: human capital, investment, state budget, health care, budget, expenditures, knowledge economy.

Rəqəmsal transformasiyaya keçiddə insan kapitalının rolu

Rəcəbova Leyla Rufət qızı

Azərbaycan Dövlət Neft və sənaye Universiteti
E-mail: le7lar@gmail.com
https://orcid.org/ https://orcid.org/0009-0000-5716-0900

Xülasə

Məqalədə rəqəmsal transormasiya keçid şəraitində insan kapitalının rolu şərh edilmişdir. Burada Azərbaycan Respublikasında 2019-2023-cü illər üzrə proqram təminatı və informasiya-kommunikasiya avadanlıqlarına çəkilən xərclər və onun strukturu təhlil edilərək qiymətləndirilmişdir. Müəyyən edilmişdir ki, ümumi xərclərin tərkibində ilə lisenziyaların alınmasına çəkilən xərclər digər xərc elementləri ilə müqayisədə daha yüksəkdir.

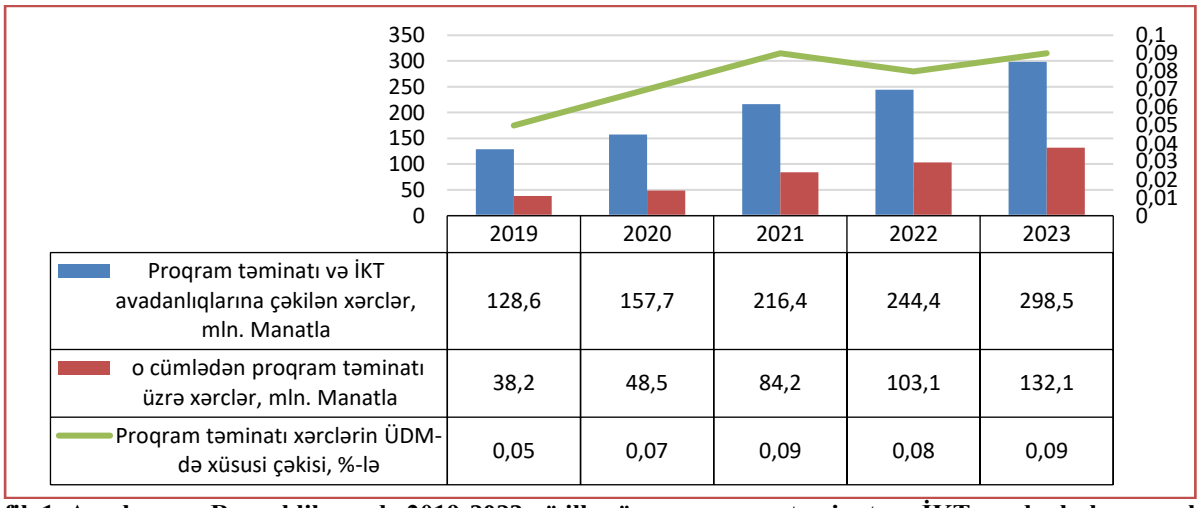
Açar sözlər: insan kapitalı, bilik iqtisadiyyatı, panemiya, transformasiya, xərc, səmərəlilik.

Giriş

Qloballaşan dünya iqtisadiyyatında rəqəmsal iqtisadiyyatın surətlə inkişafı əhalinin müasir sosial-iqtisadi şəraitini əsaslı şəkildə dəyişdirir. Belə bir şəraitdə Azərbaycanın iqtisadi təhlükəsizliyinin təmin edilməsi məsələsi kəskin formada aktuall əhəmiyyət kəsb edir. Bu istiqamətdə milli texnoloji suverenliyin formalaşdırılması və möhkəmləndirilməsi vəzifəsi mühüm yer tutur. Bilik iqtisadiyyatı sistemində və yeni sənaye sahələrinin inkişafının ümumi kontekstində transformasiyanın hərəkətverici amilləri əsasən yüksək texnologiyalı sahələrdə, ilk növbədə informasiya texnologiyaları (İT sənayesi) sahəsində insan kapitalının mövcudluğu və onun keyfiyyəti ilə xarakterizə edilir [1,2].

Əsas hissə

İnsan kapitalının mövcudluğu sayəsində bilik iqtisadiyyatı sisteminin inkişafı hər bir cəmiyyətin rəqəmsal transformasiyaya keçidin səmərəliliyini artırır [3,4]. Bu keçid ilkin olaraq İT sənayesinin inkişafı ilə iqtisadi fəaliyyət sahələrinin inkişafında mühüm rol oynayır. Dünyanı bürüyən COVİD-19 pandemiyasının mənfi təsirləri iqtisadiyyatın bütün sahələrinə mənfi təsir etsə də, həmin dövrdə qapalı məkan daxilində İT sayəsində idarəetmə sistemində İKT-dən istifadəyə geniş ehtiyyac yarandı [5,6]. Bu isə ilkin olaraq müəssisələrdə İKT avadanlıqlarına, xüsusən də proqram təminatına tələbi daha da artırdı. Bu məsələləri Azərbaycan Respublikasında 2019-2023-cü illər üzrə proqram təminatı və İKT avadanlıqlarına çəkilən ərcləri ifadə edən qrafikdən daha aydın görmək olar [7].



	2019	2020	2021	2022	2023
Proqram təminatı və İKT avadanlıqlarına çəkilən xərclər, mln. Manatla	128,6	157,7	216,4	244,4	298,5
o cümlədən proqram təminatı üzrə xərclər, mln. Manatla	38,2	48,5	84,2	103,1	132,1
Proqram təminatı xərclərin ÜDM-də xüsusi çəkisi, %-lə	0,05	0,07	0,09	0,08	0,09

Qrafik 1. Azərbaycan Respublikasında 2019-2023-cü illər üzrə proqram təminatı və İKT avadanlıqlarına çəkilən xərclər.

Mənbə. (7) məlumatları əsasında tərtib edilmişdir.

Qrafikdən göründüyü kimi Azərbaycan Respublikasında 2019-2023-cü illər üzrə proqram təminatı və İKT avadanlıqlarına çəkilən xərclər artan dinamikə əsasında öz inkişaf meyillərini göstərir. COVİD-19 pandemiyasının təsirlərinə baxmayaraq İKT-nin inkişafı 2020-ci ildə proqram təminatı və İKT avadanlıqlarına çəkilən xərclərin 2019-cuilə nisbətən 22,6% artaraq 2020-ci ildə 157,7 milyon manat olması ilə nəticələnmişdir. Həmin dövrdə İKT avadanlıqlarına çəkilən xərclərdə daxil olmaqla digər xərclər ümumi xərclərin 2019-cu ildə 70%-ni, proqram təminatı xərcləri isə 30%-ni təşkil edirdisə, sonrakı illərdə proqram təminatə xərcləri 30%-dən 2023-cü ilədək artaraq 44,2% -ni təşkil edərək yüksəlmişdir. Göründüyü kimi proqram təminatına çəkilən xərclərin ÜDM-də payı da artan dinamika ilə inkişaf etmiş və 2023-cü ildə 0,9% olmuşdur.

Statistuik məlumatlardan göründüyü kimi proqram təminatı və İKT avadanlıqlarına çəkilən xərclər 2019-2023-cü ilədək artaraq 2023-cü ildə 298,5 milyon manat təşkil etmişdir. Bu isə 2019-cu ilə nisbətən proqram təminatı və İKT avadanlıqlarına çəkilən xərclərin 2,3 dəfə artması deməkdir. Ümumi xərclərin tərkibində proqram təminatı xərcləri 2023-cü ildə 2019-cü illə müqayisədə 3,4 dəfə artaraq 132,1 milyon manat, İKT avadanlıqlarına çəkilən xərclər də daxil olmaqla digər xərclər isə 1.8 dəfə artaraq 166,4 milyon manat təşkil etmişdir. Aşağıdakı cədvəl məlumatlarından Azərbaycan Respublikasında 2019-2023-cü illər üzrə proqram təminatı və İKT avadanlıqlarına çəkilən xərclərin ümumi strukturundan bunları daha aydın görmək olar [7].

Cədvəl1. Azərbaycan Respublikasında 2019-2023-cü illər üzrə proqram təminatı və İKT avadanlıqlarına çəkilən xərclərin strukturu

Xərclər	2019	2020	2021	2022	2023
Cəmi xərclər	128,6	157,7	216,4	244,4	298,5
Lisenziyalar üzrə xərclər	29,9	32,6	64,8	78,8	103,7
Tətbiqi proqram təminatlarının hazırlanması üzrə xərclər	8,3	15,9	19,4	24,3	28,4
Texniki dəstək üzrə xərclər	34	44	62,5	68,1	74,8
Əməkdaşların təlimi və yeni tətbiqlərin öyrənilməsi üzrə xərclər	2,8	4,8	2,9	3,1	7,8
İKT avadanlıqları üzrə xərclər	25,4	28,3	27,5	25	33,6
İnternet şəbəkəsinə qoşulmaq üçün xərclər	19,7	23,1	28,2	35,8	41,1
Texniki vasitələrlə məlumatlandırma (sms və digər) üzrə xərclər	7,1	6,4	10,3	7,9	6,3
Digər sistemlərin hazırlanması (video konfrans, çağrı mərkəzi, xidməti terminallar və s.) üzrə xərclər	1,4	2,6	0,8	1,4	2,8

Mənbə. (7) məlumatları əsasında tərtib edilmişdir.

Cədvəl məlumatlarından göründüyü kimi Azərbaycan Respublikasında 2019-2023-cü illər üzrə proqram təminatı və İKT avadanlıqlarına çəkilən xərclərin strukturunda lisenziya xərcləri bütün dövrlərdə digər xərclərlə müqayisədə daha yüksəkdir. Bu xərclər 2023-cü ildə 103,7 milyon manat təşkil edərək 2019-cu ilə nisbətən 3,5 dəfə artmışdır. **T**ətbiqi proqram təminatlarının hazırlanması üzrə xərclər isə 2019-cu ilə nisbətən 3,4 dəfə artmışdır. Bu xərclər həmin ildə ümumi xərclərin 9,55-ni, lisenziya xərcləri isə ümumi xərclərin 34,7%-ni təşkil etmişdir.

Nəticə

Araşdırmalar göstərir ki, İnsan kapitalı bilik iqtisadiyyatının əsasını təşkil edir və bilik iqtisadiyyatnın inkişafı cəmiyyətin rəqəmsal transformasiyaya keçidində əhəmiyyətli rol oynayaraq onun səmərəliliyinin artmasını şərtləndirir. Azərbaycan iqtisadiyyatında rəqəmsal transformasiyanın inkişafında mühüm rol oynayan insan kapitalının inkişafı iqtisadi fəaliyyət sahələrində proqram təminatında əsaslı rol oynasa da, bu sahə üzrə lisenziyalara çəkilən xərclər olduqca yüksəkdir. Bu baxımdan İKT sektorunun inkişafı məqsədi ilə lisenziyaların alınmasında güzəştlərin tətbiq edilməsi rəqəmsal transformasiyanın inkişafı ilə məşğul olan müəssisələrin maliyyə-təsərrüfat fəaliyyətinin inkişafını stimullaşdıra bilər.

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Резюме

Роль человеческого капитала в переходе общества к цифровой трансформации

В статье рассматривается роль человеческого капитала в контексте цифровой трансформации. В данной статье были проанализированы и оценены расходы на программное обеспечение и информационно-коммуникационное оборудование в Азербайджанской Республике на 2019-2023 годы и их структура. Было установлено, что затраты на получение лицензий в составе общих затрат превышают другие элементы затрат.

Ключевые слова: человеческий капитал, экономика знаний, пандемия, трансформация, стоимость, эффективность.

Abstract

The role of human capital in the transition of society to digital transformation

The article examines the role of human capital in the context of digital transformation. This article analyzes and evaluates the costs of software and information and communication equipment in the Republic of Azerbaijan for 2019-2023 and their structure. It was found that the costs of obtaining licenses in the total costs exceed other cost elements.

Keywords: human capital, knowledge economy, pandemic, transformation, cost, efficiency.

Karbohidrogen nəql marşrutlarının səmərəliliyi

[1]Kərimli Məhəmmədəli Yaşar oğlu
SOCAR-ın neftqazelmitədqiqatlayihə İnstitutunun doktorantı
Email: mammadali.karimli@yahoo.com

Xülasə

Məqalədə karbohidrogen xammalının daşınma üsulları və onların səmərəliliyi təhlil edilir. Burada Azərbaycan Respublikasının enerji resurslarının nəqlində Bakı-Novorossiysk, Bakı-Supsa, Bakı-Tbilisi-Ceyhan neft kəmərləri və Bakı-Tbilisi-Ərzurum və TANAP qaz kəmərləri də daxil olmaqla bir neçə marşrutdan istifadə olunduu vurğulanaraq, boru kəməri ilə daşımaların xüsusi əhəmiyyət kəsab etçəsi şərh edilmişdir. Statistik mənbələr əsasında magistral neft və qaz boru kəmərləri ikə daşımaların həcmi təhlil edilərək qiymətəndirilmişdir.

Açar sözlər: xam neft, təii qaz, karbohidrogen, nəql marşrutları, enerji-komplseksi, tanker, dəmir yolu.

Giriş

Neft-qaz hasilatı Azərbaycanın yanacaq-energetika kompleksinin əsas tərkib hissəsi olmaqla, sənayenin və iqtisadiyyatın bir çox sahələrinin inkişafını müəyyən edir. Neft və qaz ehtiyatlarının bütün komponentlərindən istifadənin yüksəldilməsi Azərbaycanda sənaye təhlükəsizliyinin ən vacib strateji vəzifələrindən biri kimi ölkə iqtisadiyyatının inkişafında əsas rol oynayır. Qeyd edək ki, neft-kimya sənayesi üçün əsas xammal kimi səmt neft qazının emalı mühüm yer tutur. Hazırda səmt neft qazından rasional istifadə ekoloji məsələlərin həlli və bütövlükdə səmərəli idarə olunması, eləcə də neft-qaz sənayesi müəssisələrinin normal fəaliyyəti üçün zəruri şərtdir. Səmt neft qazından istifadə problemi bütün neft hasil edən ölkələrdə mövcuddur. Xüsusilə Azərbaycanda səmt qazının məşəldə yandırılmasının nəticələri qiymətli karbohidrogen xammalının bilavasitə itkisində və neft-qaz-kimya məhsullarının çatışmazlığı ilə bağlı dövlət üçün itirilmiş faydalarda özünü göstərir [1]. Səmt neft qazının məşəldə yandırılması neft hasilatı ərazilərində ətraf mühitin və oradakı insanların yaşayış şəraitinin pisləşməsinə gətirib çıxarır. Bu baxımdan səmt neft qazı və emal məhsullarından istifadənin səmərəliliyini artırmaq üçün texniki və texnoloji məsələlərin təkmilləşdirilməsi yolu ilə karbohidrogen xammalının istehsalının və daşınmasının intensivləşdirilməsi probleminin həll edilməsi mühühm nəzəri və praktiki əhəmiyyətə malikdir. Bütün bunlar respublikamızda mövcud karbohidrogen ehtiyyatlarının proqnozlaşdırılması əsasında yenidənqurma, modernləşdirmə, layihələndirmə, yeni istehsal və boru kəmərləri obyektlərinin daşıma həcmini müəyyən etməyə imkan verməklə karbohidrogen nəql marşrutları ilə daşınan maye yüklrərin, eləcə də mövcud istehsalın səmərəliliyinin artırılması, səmt neft qazından hədəf karbohidrogen fraksiyalarının çıxarılması dərəcəsinin yüksəldilməsinə yönəldilmiş neft-qaz müəssisələrində aparılan yenidənqurma, modernləşdirmə və texniki yenidənqurma üzrə işlərin kompleksini müəyyən etməyə imkan verəcəkdir [3]. Araşdırmalar göstərir ki, neft-kimya məhsullarının istehsalı karbohidrogen xammalından hədəf fraksiyaların çıxarılması dərəcəsinin artması hesabına mümkündür ki, bu da öz növbəsində Azərbaycanda qaz emalı zavodunun modernləşdirilməsini tələb edir [1, 3]. Səmt neft qazının fiziki-kimyəvi xüsusiyyətlərinin və onların zamanla dəyişməsinin təhlili əsasında səmt neft qazının və emal məhsullarının nəqli üzrə texniki və texnoloji göstəricilərin qiymətləndirilməsi aparılmaqla daşımaların səmərəliliyi müəyyən edilə bilər.

Məlumdur ki, neft dünya iqtisadiyyatının və beynəlxalq ticarətin inkişafında həmişə tarixən son dərəcə mühüm rol oynayıb və oynamaqda da davam edir. Son dərəcə zəngin karbohidrogen ehtiyatlarına və inkişaf etmiş neft hasilatı sənayesinə malik olan Azərbaycan ənənəvi olaraq bu xammalın dünya bazarına çıxaran ixracatçı ölkələrdən biri kimi, öz

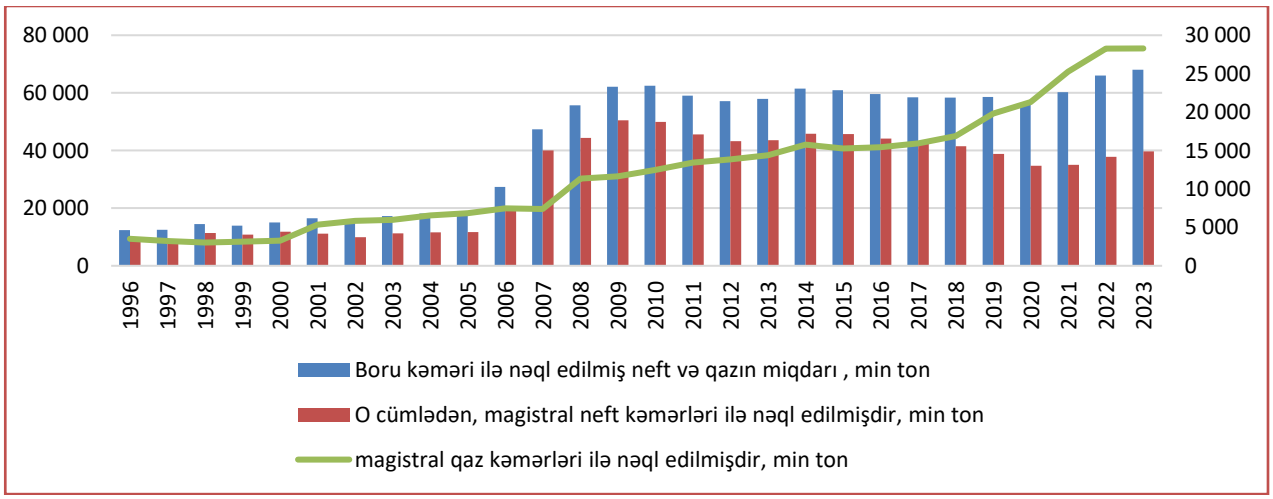
əlverişli coğrafi məkanına görə də dünya ölkələrinin daima diqqət mərkəzindədəir. Eyni zamanda, neft sənayesi iqtisadiyyatın digər sahələrinin inkişafını tənzimlədiyindən ölkəmizin sosial-iqtisadi inkişafının ən vacib tərkib hissəsidir. Azərbaycan Respublikasının dövlət büdcəsinin gəlirlərinin əhəmiyyətli hissəsini neft ixracı təşkil edir. Böyük ölçüdə gəlirlər həm də qlobal neft bazarının inkişafının qısa, orta və uzunmüddətli dövrlərdə inkişaf meyillərindən asılıdır [2]. Hasil edilmiş karbohidogen məhsularının səmərəli daşınması bu baxımdan mühüm əhəmiyyət kısb edir. Əsasən bu məhsulların, xüsusən də xam neftin nəqlinin bir neçə üsullar vardır:

Tankerlər. Bu üsulla daşıma dəniz yolları ilə neft daşımaq üçün xüsusi hazırlanmış gəmilərlə yerinə yetirilir. Onlar böyük həcmdə neft daşıya və uzun məsafələrə sürətli və səmərəli daşınma təmin edə bilərlər.

- Dəmir yolu nəqliyyatı. Dəmir yolu nəqliyyatında neft xüsusi çənlərdə dəmir yolu ilə daşınma üsulu yüksək sürəti təmin edir və neftin qısa, orta və uzun məsafələrə daşınması üçün istifadə olunur.
- Avtomobil nəqliyyatı. Bu daşıma üsulunda neft xüsusi neft tankerləri ilə də daşınaraq, çeviklik təmin edir və neftin qısa məsafələrə daşınması üçün istifadə olunur.
- Boru kəmərləri. Bu üsul neft nəqlinin ən geniş yayılmış və ən səmərəli üsullarından biridir.

Boru kəmərləri böyük həcmdə nefti uzun məsafələrə daşıya və etibarlı və təhlükəsiz daşınmasını təmin edə bilər. Boru kəmərləri yeraltı və ya yerüstü ola bilər. Hər bir daşınma metodunun özünəməxsus üstünlükləri və çatışmazlıqları var və neftin nəqli metodunun seçimi bir çox amillərdən, o cümlədən nəqlin məsafəsindən, nəql olunan neftin həcmindən, infrastrukturun mövcudluğundan asılıdır.

Müstəqil Azərbaycanın uğurla həyata keçirdiyi “Yeni Neft Strategiyası”nın əsas məqsədlərindən biri də enerji enerji ehtiyyatlarının dünya bazarına çıxarılması üzrə səmərəli nəql marşrutlarının müəyyən etmək idi. Alternativ nəqliyyat marşrutlarının inkişafına böyük əhəmiyyət verən Ulu öndər Heydər Əliyevin apardığı iqtisadi islahatlar uğurla davam edərək, neft marşrutlarının şaxələndirilməsi hesabına iqtisadi asılılığın qarşısının alması ilə yanaşı, ölkəmizin milli maraqlarına cavab verən karbohidrogen nəql marşrutları hesabına azərbaycan nefti dünya bazarında öz mövqeyini qoruyub saxlayır [2]. Hazırda enerji resurslarının nəqli üçün Bakı-Novorossiysk, Bakı-Supsa, Bakı-Tbilisi-Ceyhan neft kəmərləri və Bakı-Tbilisi-Ərzurum və TANAP qaz kəmərləri də daxil olmaqla bir neçə marşrutdan istifadə olunur. Aşağıdakı qarfikdə boru kəməri nəqliyyat vasitələri ilə daşınan neft və qazın həcmi göstərilmişdir.



Qrafik 1.Azərbaycan Respublikasının 1994-2023-cü illərdə boru kəməri nəqliyyatı ilə daşımaların həcmi.
Mənbə. (4) məlumatları əsasında tərtib edilib.

Qrafikdən göründüyü kimi boru kəməri nəqliyyatı daşınan ümumi yüklərin miqdarı 1994-2010-cu illərdə əsasən artan dinamika ilə inkişaf edərək 2010-cu ildə 62457 min ton olmuşdur ki, bu da1994-2023-cü illərüzrə ən yüksək göstəricidir. 2011-ci ildəisə əvvəlki illə müqayisədə 5,4% azalaraq 59053 min təşkil etmişdir. Sonrakl dövrlərdə isə daşımalarda artma və azalma meşahidə edilsə də 2020-2023-cü ilərdə artaraq 2023-cü il üzrə daşımaların həcmi əvvəlki ilə nisbətən 3%, 2020-ci ilə nisbətən isə 21,4% artmışdır. Qaz kəməri ilə daşımalar 1994-cü ildə ümumi daşımaları 28%-ni

təşkil edirdisə, sonradan magistral qaz kəmərləri ilə daşımaların həcmi artaraq 2023-cü ildə 28284 min ton olmuşdur ki, bu daümumi daçımaların 41,6%-i deməkdir.

Qeyd etmək lazımdır ki, daşımalrın tərkibində 2018-ci ildən istismara verilən Bakı-Tbilisi-Qars dəmir yolu üzrə daşımaların həcmi də artan dinamika ilə inkişaf etmiçdir. Statistik məlumatlara əsasən 2022-ci ildə bu Bakı-Tbilisi-Qars dəmir yolu üzrə daşımaların həcmi 412,5 min ton olmuşdur ki,bu daistismarın ilki ilə ilə (2018-ci il) müqayisədə 59 dəfə yüksəkdir.

Nəticə

Araşdırmalar göstərir ki, dünya iqtisadiyyatının və beynəlxalq ticarətin inkişafında son dərəcə mühüm rol oynayan karbohidrogen ehtiyyatlarının hasilatı, emalı və optimal marşrutlar üzrə nəql edilməsi mühüm əhəmiyyətə malikdir. Bu istiqamətdə Azərbaycanın karbohidrogen nəql marşrutları layihələrinin uğurla icra edilməsi, Azərbaycan neftinin dünya bazarına çıxarılmasında daşıma xərclərinin minimuma endirilərək daha yüksək rentabeliyin əldə olunmasını şərtləndir.

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Эффективность путей транспорта углеводорода

Керимли Махаммедали Яшар оглы

Докторант Научно-исследовательского и проектного института нефти и газа SOCAR

Электронная почта: mammadali.karimli@yahoo.com

Резюме

В статье анализируются способы транспортировки углеводородного сырья и их эффективность. Подчеркивается, что в транспортировке энергоресурсов Азербайджанской Республики задействовано несколько маршрутов, в том числе нефтепроводы Баку-Новороссийск, Баку-Супса, Баку-Тбилиси-Джейхан, а также газопроводы Баку-Тбилиси-Эрзурум и TANAP и было сделано вывод, что трубопроводный транспорт имеет особое значение. На основе статистических источников проведен анализ и оценка объемов транспортировки по магистральным нефте- и газопроводам.

Ключевые слова: сырая нефть, природный газ, углеводороды, транспортные пути, энергетический комплекс, танкер, железная дорога.

Efficiency of hydrocarbon transportation routes

Karimli Mahammedali Yashar

Doctoral student of SOCAR Oil and Gas Research and Design Institute

Email: esmahuseynova@hotmail.com

Abstract

The article analyzes the methods of transportation of hydrocarbon raw materials and their efficiency. It is emphasized that several routes are involved in the transportation of energy resources of the Republic of Azerbaijan, including the Baku-Novorossiysk, Baku-Supsa, Baku-Tbilisi-Ceyhan oil pipelines, as well as the Baku-Tbilisi-Erzurum and TANAP gas pipelines, and it was concluded that pipeline transport is of particular importance. Based on statistical sources, an analysis and assessment of the volumes of transportation through main oil and gas pipelines was carried out.

Keywords: crude oil, natural gas, hydrocarbons, transport routes, energy complex, tanker, railway.