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INTEGRATED GEOTOURISM ASSESSMENT FRAMEWORK: APPLICATION OF THE ABC-GAM MODEL IN IDENTIFYING PILOT GEOPARKS

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The article examines the theoretical and methodological foundations of geotourism development and the formation of pilot geoparks based on modern integrated approaches. The main objective of the study is to develop a well-defined framework for assessing the geotourism potential of territories through the synthesis of the ABC (Abiotic, Biotic, Cultural) concept and the GAM (Geosite Assessment Model) quantitative model. The proposed methodology reduces expert subjectivity through a structured semi-quantitative assessment procedure by separating the Main Values of geosites from the Additional Values. Projecting the calculated data onto a two-axis 9-zone GAM matrix enables strategic screening of the area, identification of the geopark's sustainable "core", and definition of investment priorities. The paper substantiates the strategic importance of localizing this model for the Republic of Armenia as an effective tool for geoconservation and the socio-economic sustainable development of remote and border communities.

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Introduction. In the 21st century, the global tourism industry has entered a phase of radical transformation. For decades, the dominant extensive models of mass tourism have revealed a number of negative consequences, including the degradation of natural ecosystems, overexploitation of local resources, and the loss of ethno-cultural identity. To confront these challenges, concepts based on sustainability, ecological balance, and cognitive-educational components are coming to the forefront of modern tourism planning. Within this context, geotourism is developing with remarkable dynamism as a distinct direction of sustainable tourism, where the primary subject of research and development is the Earth's inorganic (non-living) nature heritage-geological, geographical, hydrological, and geomorphological formations.

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At the same time, modern geotourism trends prove that the mere passive observation of geological monuments (geosites) or landforms no longer satisfies market demands. The current scientific and practical imperative is to transition to a system, where the inorganic base (Abiotic) is viewed in an inseparable symbiosis with living nature (Biotic) and the human civilization and cultural heritage (Cultural) shaped within a given landscape over centuries. This comprehensive approach, known in modern science as the ABC concept, serves as the main platform for creating and managing global geoparks that meet UNESCO standards.

From the perspective of regional sustainable development and effective natural resource management, a dual problem is frequently encountered: on one hand, exceptional geological objects remain excluded from public and scientific attention and lack basic infrastructure; on the other hand, certain popular monuments are subjected to unregulated and chaotic tourist overcrowding (overtourism). The primary cause of such issues is the absence of an objective, mathematically justified, and multi-factor assessment methodology, which leads to ineffective managerial decisions. Therefore, comprehensive screening, quantitative assessment, and classification of geosites become a primary necessity for determining the prospective boundaries of pilot geoparks and developing their development strategies.

The theoretical and methodological foundations of geotourism and geopark formation have undergone rapid development over the past three decades. As an independent scientific discipline, the theoretical concept of geotourism was first systematically presented in the foundational works of T. Hose [1, 2]. As one of the pioneers in this field, Hose placed key emphasis on geoconservation and the scientific, popular interpretation of geological objects for visitors. According to him, cognitive explanation and the educational component must become an integral part of the tourist experience.

Later, R. Dowling and D. Newsome [3, 4] expanded the scope of these boundaries, viewing geotourism not only as a conservation tool but also as an active mechanism for territorial development. In their updated framework, this paradigm has evolved to integrate broader territorial dynamics, positioning geotourism as a holistic approach to sustainable regional enhancement [5]. In their formulation, this direction actively contributes to preserving and enhancing the geographical integrity of a place by systematically linking the ecological environment, historical-cultural heritage, aesthetic values, and the socio-economic well-being of local communities.

For a long time, overcoming expert subjectivity in geosite assessment remained a pivotal issue in scientific debates. The qualitative and descriptive methods previously used contained a high degree of expert subjectivism. To fill this gap, researchers initiated the development of quantitative and semi-quantitative assessment systems. In this context, a new methodological level was provided by the structural model proposed by J. Brilha [6, 7]. Over the past two decades, these quantitative methodologies have undergone a continuous evolution, moving from isolated inventory checklists toward highly standardized, global comparative frameworks that minimize expert bias [8].

Significant methodological progress was also recorded with the introduction of the GAM (Geosite Assessment Model) developed in [9]. The authors succeeded in synthesizing previous experiences and creating a mathematically simple yet functional structure, where criteria were separated into two main classes: Main Values (MV) and Additional Values (AV). The chief advantage of this model is that the obtained quantitative data can be projected onto a two-axis 9-zone matrix, which visually facilitates strategic planning. Recent updates to this model (M-GAM) emphasize the integration of visitor perceptions and market-driven indicators, thereby bridging the gap between pure geoconservation and consumer demand [10].

Nevertheless, scientific trends of the past decade show that the classical GAM model sometimes underestimates the unique impact of an area's biodiversity and ethno-cultural layers on the formation of the tourism product. In this regard, J. Gordon [11] substantiates that the geological foundation (Abiotic) can never be viewed in isolation, as it constitutes the very natural platform upon, which complex biodiversity systems are anchored and developed.

This paradigm was further advanced by E. Reynard and J. Brilha [12], who asserted the necessity of an integrated ABC (Abiotic, Biotic, Cultural) model. They argued that geological structures, besides their narrow scientific value, represent the vital environment and geographical matrix, around which the endemic biodiversity (Biotic) and the historical-cultural life of local communities (Cultural) have been woven over centuries. Recent methodological reviews confirm that evaluating geosites through modified ABC frameworks provides a more balanced and integrated output than single-attribute models [10]. Consequently, modern geotourism planning and geopark design cannot rely on segmented approaches; instead, they must be executed through the integrated combination of these three interconnected layers.

Domestic researchers have made major contributions to the identification, mapping, and disclosure of the scientific-educational and tourism potential of geological monuments within the territory of the Republic of Armenia (RA). Long-term studies conducted by the NAS RA Institute of Geological Sciences and local scientists have generated rich documentation regarding Armenia's volcanism, seismotectonics, and geomorphology. Recent research has advanced this dialogue by directly assessing the volcanic and tectonic geoheritage of Armenia and highlighting its specific readiness and high potential for formal geopark development [13–16]. Nonetheless, papers evaluating domestic geological wealth through the application of modern semi-quantitative and integrated mathematical models (such as ABC-GAM) are still scarce in Armenian scientific literature, which highlights the experimental novelty of this study.

In this regard, the present research gains strategic importance for Armenia. As a mountainous country endowed with exceptional and dense geological diversity (geodiversity), Armenia possesses immense untapped potential for establishing national geoparks that meet international standards. Localizing the ABC-GAM model will help overcome the current uneven distribution of tourist flows across RA provinces by attracting scientific-cognitive tourism to unique geological landscapes that have remained in the shadows until now. This will not only contribute to the preservation of natural monuments (geoconservation), but will also serve as a powerful catalyst for the socio-economic sustainable development of remote and border communities in Armenia, fostering the creation of "green" jobs.

Thus, transitioning from purely descriptive geology to the comprehensive, integrated ABC-GAM model stands as a state-of-the-art scientific tool for geotourism planning, enabling the precise identification of a pilot geopark's core and the construction of effective sustainable management models.

The main objective of this study is to develop and substantiate a scientifically refined framework for the quantitative and qualitative assessment of the geotourism potential of pilot areas through the localization of the integrated ABC-GAM model.

Methodology and Mathematical Structure. To identify pilot geoparks and assess geosites within their boundaries, this study applies the GAM integrated with elements of the ABC concept. The structural advantage of the GAM model lies in its clear separation of an object's natural-scientific essence from its logistical and tourism infrastructure status [6, 7, 9, 10].

The mathematical foundation of the model consists of two main domains: MV and AV. The total score of a geosite (GAM_{total}) is the sum of these two domains:

$$\mathrm{GAM_{total}} = \mathrm{MV} + \mathrm{AV}. \tag{1}$$

The conceptual and logical structure of the model, as well as the integration of ABC components into the assessment system, is illustrated in Fig. 1 [10–12].

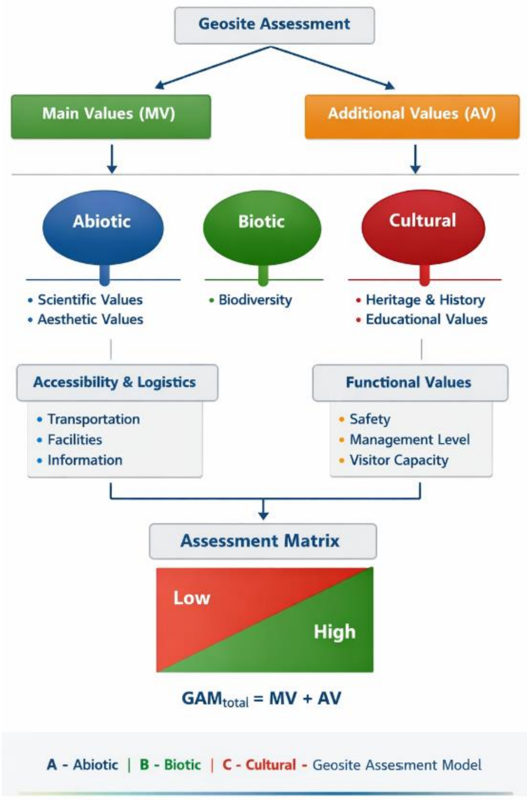

Fig. 1. Structural integration and assessment logic of the ABC-GAM model.

This scheme provides insights into the ABC-GAM conceptual framework. The model unifies the three fundamental components of geoheritage – Abiotic, Biotic, and Cultural – into a single quantitative assessment system:

- MV domain represents the inherent scientific, aesthetic, and cultural-historical significance of the geosite (geological monument).
- AV domain reflects its accessibility, infrastructure, and functional conditions.

Each sub-indicator is assessed on a scale from 0 to 1 point (with quarter-step increments: 0, 0.25, 0.50, 0.75, 1.0), ensuring high precision in the assessment [9]. All indicators, sub-indicators, and their weights within this methodological structure are systematically presented in Table.

The obtained data are projected onto a two-axis Assessment Matrix, allowing for a visual interpretation of the site's potential and the setting of strategic priorities for regional geotourism development.

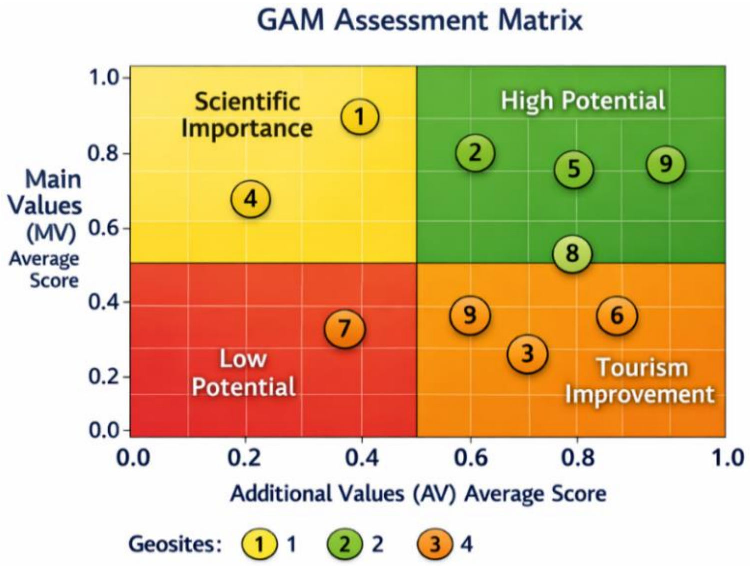

Fig. 2. GAM Assessment Matrix.

Here, each geosite is plotted according to its MV and AV values, which visually differentiates:

- *High Potential*: sites with high scientific and infrastructural values.
- *Scientific Importance*: sites holding high scientific value, but limited from a tourism perspective.
- *Tourism Improvement*: sites requiring infrastructure development.
- *Low Potential*: sites with low overall indicators.

Such a matrix assists in strategic decision-making regarding, which geosites are a priority for conservation or tourism development.

As stated, all sub-indicators included in the Table are evaluated on an expert scale ranging from 0 to 1 point (including quarter-steps: 0.25, 0.50, 0.75). This ensures high evaluation accuracy [9].

Sub-indicator Content Structure. Structure and Calculation of MV. MV reflect the level of a geosite's natural, scientific, educational, aesthetic, and cultural heritage. They are calculated as the sum of three main blocks, each containing three sub-indicators [6–9]:

$$\mathrm{MV} = \sum_{i=1}^{3} \mathrm{VSE} + \sum_{j=1}^{3} \mathrm{VA} + \sum_{k=1}^{3} \mathrm{VK}. \qquad (2)$$

Structure of assessment criteria and sub-indicators of the ABC-GAM model

Assessment Blocks	Sub-indicators	Code	Assessment Scale	Source
MV	Maximum: 9 points			
Scientific and educational	Rarity	VSE1	0–0.25–0.5–0.75–1.0	[7]
	Representativeness	VSE2	0–0.25–0.5–0.75–1.0	[6], [9]
	Scientific Literature	VSE3	0–0.25–0.5–0.75–1.0	[9]
Aesthetic value	Scenic Viewpoints/Watchpoints	VA1	0–0.25–0.5–0.75–1.0	[9]
	Surface Diversity	VA2	0–0.25–0.5–0.75–1.0	[7]
	Integrity	VA3	0–0.25–0.5–0.75–1.0	[6]
Cultural value	Proximity to Monuments	VK1	0–0.25–0.5–0.75–1.0	[12]
	Traditions and Legends	VK2	0–0.25–0.5–0.75–1.0	[11]
	Religious/Geographical Role	VK3	0–0.25–0.5–0.75–1.0	[12]
AV	Maximum: 9 points			
Accessibility and infrastructure	TransporAccessibility	VT1	0–0.25–0.5–0.75–1.0	[9]
	Road Condition	VT2	0–0.25–0.5–0.75–1.0	[9]
	Information Infrastructure	VT3	0–0.25–0.5–0.75–1.0	[7]
	Accommodation and Food	VT4	0–0.25–0.5–0.75–1.0	[4]
	Tourism Centers	VT5	0–0.25–0.5–0.75–1.0	[11]
Functional values	Safety Level	VF1	0–0.25–0.5–0.75–1.0	[9]
	Area Restrictions	VF2	0–0.25–0.5–0.75–1.0	[7]
	Visitor Capacity	VF3	0–0.25–0.5–0.75–1.0	[3]
	Local Involvement	VF4–VF6	0–0.25–0.5–0.75–1.0	[12]

1. ***Scientific and Educational Value (VSE).*** This block assesses the significance of the object from the perspective of geological science and education. It includes the following sub-indicators:

- *Rarity (VSE1 – Rarity)*: evaluates the prevalence of the geological or geomorphological phenomenon. If the object is unique at an international or national level, 1 point is allocated, while local uniqueness receives 0.25–0.5 points [7].
- *Representativeness (VSE2 – Representativeness)*: shows how characteristic the given geosite is for understanding regional geological history, tectonic structure, or magmatism. This criterion is vital in the context of geodiversity assessment [6, 9].
- *Availability of Scientific Literature (VSE3 – Knowledge)*: evaluates the degree to which the object has been studied, taking into account its citation in scientific articles, monographs, or international reports. This approach has been widely applied during GAM model testing [9].

2. *Aesthetic Values (VA).* This block assesses the visual and aesthetic impact of the geosite on the tourism experience. It includes three sub-indicators [7, 9]:

• *Scenic Viewpoints (VA1 – Scenic Viewpoints)*: evaluates the degree to which the geosite provides spectacular and impressive vistas. Highly rated sites possess versatile viewpoints and pronounced landscape features [9].

• *Surface Diversity (VA2 – Surface Diversity)*: shows the diversity of geological surfaces through variations in color, shape, and structure. This criterion is crucial for tourism attractiveness and aesthetic perception [7].

• *Integrity (VA3 – Integrity)*: evaluates the degree of preservation of the object. High values are given to sites that have undergone minimal anthropogenic modification and retain their natural appearance [6].

3. *Cultural Values (VK).* This block evaluates the connection of the geosite with historical-cultural heritage and community identity. It includes three sub-indicators [11, 12]:

• *Proximity to Monuments (VK1 – Proximity to Monuments)*: evaluates the spatial connection of the geosite with historical or cultural monuments. High scores are awarded to sites located in the immediate vicinity of cultural centers [12].

• *Traditions and Legends (VK2 – Traditions & Legends)*: shows the extent to which the geosite is integrated into local traditions, folklore, or legends. This is important for the cognitive and educational components of the tourist experience [11].

• *Religious/Geographical Role (VK3 – Religious/Geographical Role)*: Evaluates the significance of the object within the spiritual or geographical identity of the community. This criterion highlights the value of the geosite not only as a natural asset but also as cultural heritage [12].

Structure and Calculation of AV. Additional Values reflect the functionality of the geosite and its potential for exploitation in tourism. They are calculated as the sum of two main blocks: Accessibility & Infrastructure (VT) and Functional Values (VF) [9]:

$$AV = \sum_{l=1}^{5} \mathrm{VT} + \sum_{m=1}^{6} \mathrm{VF}. \tag{3}$$

1. *Accessibility and Infrastructure (VT).* This block evaluates the accessibility level and tourism infrastructure of the object:

• *Transport Accessibility (VT1 – Transport Accessibility)*: evaluates what transport options can reach the object. High values are granted to sites accessible by regular passenger cars, whereas sites reachable only via hiking trails are scored lower [9].

• *Road Condition (VT2 – Road Condition)*: indicates road quality, ranging from asphalted and well-maintained roads to dirt or difficult-to-pass paths. This indicator is important for managing tourist flows [9].

• *Information Infrastructure (VT3 – Information Infrastructure)*: evaluates the availability of informational panels, signposts, QR codes, and guides. Information availability enhances educational and cognitive value [7].

• *Accommodation and Food Services (VT4 – Accommodation & Food Services)*: evaluates the proximity and availability of hotels, guesthouses, and restaurants near the geosite. This is critical for tourist comfort and extended stays [4].

• *Tourist Centers (VT5 – Tourist/Eco-Educational Centers)*: indicates the presence of tourist information or eco-educational centers. These infrastructures contribute to geoconservation and the educational component [11].

2. *Functional Values (VF).* This block evaluates the object's safety, management level, and community involvement:

• *Safety Level (VF1 – Safety Level)*: Evaluates natural risks (rockfalls, landslides, abysses) and the presence of protective measures. This is crucial for ensuring visitor safety [9].

• *Area Restrictions (VF2 – Area Restrictions)*: shows the legal status of the object (nature reserve, private property) and visit seasonality. This criterion is important for sustainable management [7].

• *Visitor Capacity (VF3 – Visitor Capacity)*: evaluates the physical capacity of the area to host tourist groups without causing damage to the natural environment. This is essential in sustainable tourism planning [3].

• *Other Functional Indicators (VF4–VF6)*: include the involvement of local communities, souvenir sales, and other forms of economic activity. These factors are important for socio-economic sustainability. Contemporary paradigms link these functional matrices directly to rural socioeconomic development within protected boundaries [12, 17].

This combined structure allows for a balanced quantitative and qualitative assessment, contributing to the strategic planning of sustainable geotourism and geoparks.

The Gam Matrix and Strategic Zoning. Upon completion of the calculations, each geosite receives two final coordinates: (X, Y), where X = MV and Y = AV. This data is plotted onto the GAM matrix, which is divided into 9 main assessment zones ranging from Z11 to Z33 [9]:

• *X-axis (Horizontal)*: reflects the cumulative score of the MV. Since MV consists of three sub-blocks (Scientific, Aesthetic, Cultural), each with a maximum value of 3 points, the total span of the X-axis is 0–9 [6].

• *Y-axis (Vertical)*: reflects the cumulative score of the AV. The values on this axis also range from 0 to 9, ensuring proportional weighting [9].

Based on these two axes, the matrix is split into 9 equal square zones (Z11–Z33). The scales are divided into three tiers: Low (0–3), Medium (3.01–6.0), and High (6.01–9.0). The spatial distribution and zoning image of the obtained values are displayed in Fig. 3.

One of the most valuable features of the GAM model is the visual capitalization of the obtained quantitative data via the two-axis matrix. This methodology makes it possible to escape the monotony of numerical tables and create a spatial orientation tool that simultaneously provides scientific and practical applicability [7, 9, 12].

Color and structural coding make it possible to visually differentiate the tourism status of objects:

• *High Potential (Z33)*: sites with high scientific and infrastructural values that constitute the core of the geopark.

• *Scientific Importance (Z31, Z32)*: sites with high scientific value, but limited in terms of tourism or requiring infrastructure development.

• *Tourism Improvement (Z23)*: auxiliary points of regional significance.

• *Low Potential (Z11 Z13)*: sites with low overall scientific indicators.

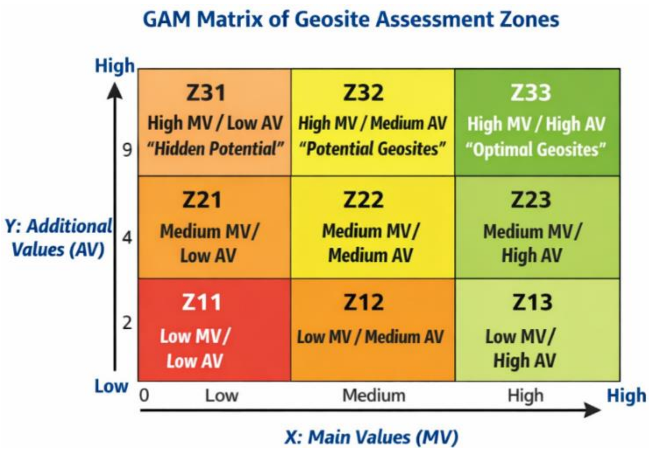

Fig. 3. GAM Matrix of Geosite Assessment Zones.

Interpretation and Strategic Significance of the 9 Assessment Zones. Depending on its calculated MV and AV coordinates, each geosite is classified into one of the matrix zones:

• *Z11–Z13 (Low MV)*: objects with a weak scientific component. Even if the infrastructure in zone Z13 is excellent, the object cannot be considered a primary site [7].

• *Z21–Z23 (Medium MV)*: geosites of regional significance that supplement tourist itineraries. For example, objects in zone Z23 possess good accessibility and are already involved in tourism [9].

• *Z31–Z33 (High MV)*: exceptional objects around which the pilot geopark is formed.

• *Z33*: ideal geosites with high MV and AV. They constitute the core of the geopark. The strategic action here involves tourist flow management and monitoring [12].

• *Z32*: promising geosites with high MV and medium AV. They require small-scale investments to improve informational infrastructure [9].

• *Z31*: hidden potential-unique but inaccessible objects. They represent primary targets for infrastructural investments. Integrating marketing matrices into these zones helps bridge stakeholder gaps by aligning hidden geoheritage value with actual tourist motivations [7, 10, 11].

Zoning and Its Role in Identifying Pilot Geoparks. The application of the GAM matrix in the pilot geopark formation process stands as a strategic screening method that transforms quantitative data into a spatial analysis tool. This approach is based on the models from [7, 9], which offer a two-axis system combining scientific and functional values.

If the majority of geosites in a studied region concentrate in the upper right section of the matrix-zones Z31–Z33, then the given territory may demonstrate high potential for future UNESCO Geopark [11, 12]. These zones are characterized by high MV, which constitute the base for sustainable tourism development. In mountainous domains like the Lesser Caucasus, identifying these high-concentration zones is vital for building continuous ecological and geological corridors (Khachatryan et al., 2023).

The matrix also clearly points out the investment vector – the direction, in which infrastructure should be developed. Objects in the Z31 zone-unique places with high MV and low AV are viewed as priority targets for state and private investments [7, 9]. Improving roads, adding informational infrastructure, and implementing safety measures make it possible to shift these objects toward the Z33 zone, where they become core elements of the geopark.

This transition not only elevates the international profile of the geopark, but also increases its economic efficiency by forming a scientifically grounded tourism network. According to [12] and the comprehensive global handbook framework [5], the GAM matrix operates as a strategic planning tool that links scientific assessment, infrastructural development, and tourism management into a single unified system. Furthermore, active structural management of these zones acts as a catalyst for community resilience and rural diversification, shifting the focus toward decentralized economic growth [17].

In the Armenian context, the ABC-GAM framework can be applied as a preliminary screening tool for identifying territories suitable for pilot geopark development. Armenia is characterized by high geodiversity, including volcanic landscapes, tectonic structures, canyon systems, mineral springs. Such territories may be assessed through the combined analysis of their abiotic, biotic, and cultural components, followed by their positioning within the GAM matrix.

For example, territories such as the Geghama volcanic highlands, the Vayots Dzor canyon, the Sevan basin, the Debed canyon area, and selected parts of Syunik may be considered as candidate areas for future ABC-GAM assessment. In these areas, geosites with high MV, but limited accessibility or infrastructure would fall into zones such as Z31 or Z32, indicating hidden potential and the need for targeted investment. Sites with both high MV and AV may form the preliminary core of a future pilot geopark.

Thus, the application of the ABC-GAM model in Armenia should be understood as a strategic screening stage that supports the identification of priority geosites, investment needs, and possible geopark cores before detailed field-based evaluation and official designation procedures.

Conclusion. The theoretical-methodological and structural analysis conducted within the framework of this research allows for the formulation of the following fundamental conclusions:

The combination of the ABC concept and the GAM quantitative model in modern geotourism planning represents a fundamental step away from the merely descriptive observation of geological features toward a multi-factor systematic assessment. The synthesis of abiotic nature, the living environment, and cultural heritage allows geosites to be viewed in their natural and civilizational integrity, which is the primary prerequisite for the creation of UNESCO Global Geoparks.

The mathematical framework of the ABC-GAM model successfully addresses the issue of subjectivity and bias in the evaluation of geological monuments. The clear separation of MV and AV, as well as their quantification using a quarter-step scale, ensures high data accuracy and international comparability. The GAM two-axis matrix and its 9 strategic zones serve as effective tools for spatial management. This method not only clearly delineates the ready-made tourism "core" of the pilot geopark (Zone Z33), but also highlights unique features endowed with "hidden potential" (Zone Z31), which require priority infrastructural investments.

The localization of the ABC-GAM model within the territory of the Republic of Armenia carries vital strategic significance. Blessed with exceptional geodiversity, Armenia can utilize this system to define the prospective boundaries of national pilot geoparks, overcome the spatial asymmetry of tourism flows, and implement effective geoconservation mechanisms. Consequently, global geopark criteria can become a vital driving force for the socio-economic revival and sustainable development of remote and border rural communities.

The proposed framework therefore provides a practical basis for the preliminary identification, comparison, and prioritization of candidate geosites and pilot geopark territories in Armenia. At the same time, the proposed framework should be considered as a preliminary assessment and planning tool. Its results remain dependent on the quality of expert evaluation, the completeness of geosite inventories, and the availability of field-based data. Future research should apply the ABC-GAM model to selected Armenian pilot territories using real geosite datasets and comparative expert scoring.

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ԻՆՏԵԳՐՎԱԾ ԵՐԿՐԱՏՈՒՐԻԶՄԻ ԳՆԱՀԱՏՄԱՆ ԾՐՋԱՆԱԿ. ABC-GAM ՄՈԴԵԼԻ ԿԻՐԱՌՈՒՄԸ ՓԻԼՈՏԱՅԻՆ ԵՐԿՐԱՊԱՐԿԵՐԻ ԲԱՑԱՀԱՅՏՄԱՆ ՀԱՄԱՐ

Ամփոփում

Այս հոդվածը քննում է գեոտուրիզմի (երկրաբանական տուրիզմ) զարգացման և փորձնական գեոպարկերի ստեղծման տեսական և մեթոդաբանական հիմքերը՝ հիմնված ժամանակակից ինտեգրված մոտեցումների վրա: Ուսումնասիրության հիմնական նպատակն է մշակել տարածքների գեոտուրիզմի ներուժի գնահատման հստակ համակարգ՝ ինտեգրելով ABC հայեցակարգը (աբիոտիկ, կենսաբանական և մշակութային բաղադրիչներ) և քանակական գեոտիտի գնահատման մոդելը (ԳԳՄ):

Առաջարկվող մեթոդաբանությունը հաղթահարում է փորձագիտական գնահատումների սուբյեկտիվությունը՝ տարբերակելով գեոտիտների հիմնական արժեքները (գիտական, գեղագիտական և մշակութային) լրացուցիչ բնութագրերից (մատչելիություն, ենթակառուցվածքներ և ֆունկցիոնալություն): Ստացված տվյալների երկառանցքային, ինը գոտիանոց ԳԳՄ մատրիցի վրա պրոյեկտումը հնարավորություն է տալիս ռազմավարականորեն զննել

տարածքները, նույնականացնել կայուն գեոպարկի միջուկ և որոշել ներդրումային առաջնահերթությունները:

Հոդվածը հիմնավորում է այս մոդելի հարմարեցման ռազմավարական կարևորությունը Հայաստանի Հանրապետության համար՝ որպես գեոպահպանման (երկրաբանական ժառանգության պաշտպանություն) և հեռավոր և սահմանամերձ համայնքների կայուն սոցիալ-տնտեսական զարգացման ապահովման արդյունավետ գործիք:

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КОМПЛЕКСНАЯ СИСТЕМА ОЦЕНКИ ГЕОТУРИЗМА: ПРИМЕНЕНИЕ МОДЕЛИ ABC-GAM ДЛЯ ВЫЯВЛЕНИЯ ПИЛОТНЫХ ГЕОПАРКОВ

Р е з ю м е

В статье рассматриваются теоретические и методологические основы развития геотуризма (геологического туризма) и формирования пилотных геопарков на основе современных комплексных подходов. Основной целью исследования является разработка четкой системы оценки геотуристического потенциала территорий путем интеграции концепции ABC (абиотические, биотические и культурные компоненты) и количественной модели GAM (Geosite Assessment Model – модель оценки геосайтов).

Предлагаемая методология позволяет преодолеть субъективность экспертных оценок, дифференцируя основные ценности геосайтов (научные, эстетические и культурные) от дополнительных характеристик (доступности, инфраструктуры и функциональности). Проецирование полученных данных на двухосевую девятизонную матрицу GAM дает возможность проводить стратегический скрининг территорий, выявлять устойчивое “ядро” геопарка и определять инвестиционные приоритеты.

В работе обосновывается стратегическая важность адаптации данной модели для Республики Армения как эффективного инструмента геоконсервации (охраны геологического наследия) и обеспечения устойчивого социально-экономического развития удаленных и приграничных сообществ.