UNESCO Global Geopark Biokovo–Imotski Lakes: Potential Contribution to the Enhancement of Tourism in the Imotski Region

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Abstract: The purposes of the research were to determine the expected benefits of the designation of the Biokovo-Imotski Lakes Geopark (BILUGGp) as a UNESCO Global Geopark for tourism development in the Imotski Region, and the expected benefits of partnership programmes with the Geopark. The paper also reviews of examples of good practices from selected UNESCO Global Geoparks, highlighting projects and activities that could be adapted to support BILUGGp. Empirical research using the e-Delphi technique was employed to investigate the mentioned topic, in conjunction with online research regarding UNESCO Global Geoparks, pertinent documents, as well as scientific and professional literature. Data: The internet survey covered 213 UNESCO Global Geoparks, i.e., their websites, located in 48 countries, and 27 panellists ultimately participated in the e-Delphi survey. Results show the expected benefits of this designation for the tourism development of the Imotski Region include a substantial increase in the destination's visibility (37%), the promotion of new tourist facilities (33%), and the establishment of conditions favorable for geotourism development (32%). 2) The expected benefits arising from partnership programs with the Geopark are evident in collaboration with other Geoparks on particular projects (such as Geofood) (37%), enhanced overall promotion (30%), and greater visibility for stakeholders (26%). The designation of Geopark offers numerous benefits and opportunities for growth across the entire region, which encompasses Imotski, Biokovo, Zabiokovlje, and the Makarska Riviera. It promotes the development of tourism, enhances geotourism and destination branding, encourages collaboration with other Geoparks, and supports the development of agriculture, hospitality, trade, and services. Furthermore, it stimulates the revitalization of traditional crafts and customs, establishes a variety of partner programs, advocates for the sustainable management of both natural and cultural heritage, and contributes positively to the well-being of the local community.

Keywords: UNESCO Geoparks, Biokovo-Imotski Lakes Geopark, Delphi method, tourism development, benefits, partnership
JEL Classification: Z32

1. Introduction

UNESCO Global Geoparks (UGGps) are defined as unified geographical areas where sites and landscapes of international geological significance are managed through a holistic approach encompassing protection, education, and sustainable development (UNESCO, 2015). Beyond their geological heritage, UGGps leverage the natural and cultural assets of their regions to address key societal challenges, including sustainable resource management, climate change mitigation, and risk reduction from natural hazards. The UNESCO framework for UGGps emphasises a bottom-up strategy that integrates conservation with local development, increasingly engaging communities in decision-making processes. The creation and operation of Geoparks are guided by three interrelated pillars: geoconservation, geoeducation, and local development (Pérez-Romero et al., 2023). Geoparks and geotourism are widely recognised as instruments for fostering local development, community participation, and poverty alleviation, particularly in regions rich in geological resources (Dowling, 2013; Özgeriş & Karahan, 2021). Effective Geopark development requires careful consideration of local economic and social contexts, positioning geotourism as a critical driver of regional growth. Bibliometric analyses further demonstrate the increasing scientific interest in Geoparks: Herrera-Franco et al. (2021) reviewed 848 Scopus publications from 2002 to 2020, highlighting a growing emphasis on the definition, assessment, and sustainable management of geomorphological heritage and geosites. Similarly, Pérez-Romero et al. (2023) analysed 324 Web of Science articles on Geoparks, observing a notable increase in global research activity and a diversification of focus areas, particularly in geotourism linked to UGGps. Ruban and Yashalova (2024) report that scholarly publications on Geoparks tend to increase following UGGp designation, though research output remains uneven across different Geoparks. Their analysis identifies a broad spectrum of research themes, including geoheritage, geology, ecology, sustainability, and technological applications, while noting that the full scientific potential of Geoparks is often underutilised. Ruban, Mikhailenko, Yashalova and Scherbina (2023) further observe that the majority of UGGps are located in countries with high Human Development Indexes, with fewer than 10% situated in countries below the global average. They advocate for international support to establish Geoparks in developing nations and conclude that the full socio-economic and environmental significance of UGGps remains to be realised globally. As of August 2024, 213 UGGps have been established worldwide, including 110 across 28 European countries. China (47), Spain (16), Italy (11), France (10), and Japan (9) account for the majority of sites. With the designation of the Biokovo-Imotski Lakes UNESCO Global Geopark (BILUGGp), Croatia now hosts three UGGps, alongside the Papuk Geopark and the Vis Archipelago Geopark. This study aims to analyse the expected benefits of UGGp designation for tourism development in the Imotski Region and to evaluate the potential advantages of partnership programmes implemented by BILUGGp. It further examines selected examples of good practice, illustrating how UGGps contribute to sustainable tourism development, community engagement, and the integration of geological, natural, and cultural resources.

2. Literature Review

2.1 Benefits of UGGp Designation for Tourism Development

The designation of a UNESCO Global Geopark (UGGp) brings multiple advantages, including fostering economic growth, promoting sustainable tourism, supporting niche tourism sectors, providing cultural and educational benefits, and ensuring the preservation of both natural and cultural heritage.

Additionally, UGGp status enhances global networking and visibility, facilitating international cooperation and knowledge exchange. Geoparks are increasingly recognised as a valuable alternative to traditional sun-and-beach tourism, supporting local economies by generating revenue, creating employment opportunities, and stimulating the development of new services and products (Pérez-Calderón et al., 2022).

Economic benefits are evident in increased visitor numbers, which drive higher spending on local goods and services, foster the creation of new tourist products, and raise employment levels for the resident population. Beyond local communities, states benefit from higher tax revenues, which can be reinvested into public infrastructure and services. The designation also contributes to the preservation of cultural and natural heritage, reinforces local traditions and customs, and may even support demographic stability through reduced emigration.

UGGp recognition creates the preconditions for the development of specific forms of tourism, including geotourism, adventure tourism, educational tourism, and eco-tourism. It stimulates economic growth through increased trade, hospitality services, and local entrepreneurship (Reynard et al., 2016). Geopark status often encourages the establishment of visitor centres, museums, and eco-friendly accommodation, designed to meet the demands of growing tourist flows (Farsani et al., 2012). Geoparks function as hubs attracting visitors interested in their unique geological formations and cultural heritage, while simultaneously supporting employment in hospitality, retail, and cultural sectors (Briggs et al., 2023).

Geotourism, a central component of UGGps, combines the exploration of geological heritage with conservation and educational activities. This model mitigates the negative effects of mass tourism while fostering deeper understanding and appreciation of natural environments. By integrating local culture, education, and heritage interpretation into tourism offerings, Geoparks contribute to regional identity preservation and long-term sustainable development (Arrage, 2024). Core objectives include the sustainable management of natural and cultural resources through conservation initiatives and public engagement (Reynard, Coratza & Hoblea, 2016). Visitors not only experience geological and scenic landscapes but also gain insights into local traditions and environmental stewardship, strengthening the socio-economic resilience of host communities (Arrage, 2024).

International examples demonstrate the tangible benefits of UGGp designation. The Kanawinka Geopark in Australia, as well as several Asian UGGps, illustrate substantial increases in visitor numbers and local income, though they also highlight challenges such as uneven distribution of benefits across communities (Lee & Jayakumar, 2021). Geoparks provide cultural and educational benefits through workshops, school programmes, and community activities, promoting environmental awareness and strengthening connections between residents, visitors, and their environment. Membership in the UGGp Network enhances global visibility, facilitates collaboration, attracts international tourists, and supports funding for conservation initiatives (Xu & Wu, 2022; Briggs et al., 2023). UGGp status further encourages sustainable agricultural practices, local resource utilisation, and product branding, enhancing market value while supporting local economic growth (Farsani et al., 2012; Reynard et al., 2016).

Empirical examples from Europe and Croatia reinforce these points. The Papuk Geopark in Croatia implemented the Geo Stories of the UNESCO Geopark project in 2021 to enhance sustainable tourist infrastructure, increasing visitor numbers and improving management. In 2022, the GeoInfo Centre in Voćin welcomed 18,500 visitors, while the Panonian Sea House attracted approximately 4,000 visitors. Arouca Geopark in Portugal recorded a substantial increase in visitors after its 2009 UGGp designation, with numbers rising from around 50,000 in 2010 to over 600,000 by 2016, generating an estimated €3 million annually for local businesses (Neto de Carvalho & Rodrigues, 2017).

Similarly, the English Riviera Geopark (UK) observed a 15% increase in visitors in the five years following its 2007 designation, resulting in £2.7 million (€3.24 million) in direct spending and

supporting approximately 60 full-time local jobs (Farsani et al., 2012). The Petrified Forest Geopark on Lesvos, Greece, attracted 90,000 visitors annually post-designation, generating €5 million in geotourism-related income and creating both direct and indirect employment opportunities (McKeever, Zouros & Patzak, 2010). Idrija Geopark in Slovenia experienced a 25% rise in visitor numbers over three years after its 2013 designation, contributing an estimated €1.5 million annually to the local economy (Verbole, 2016). The Copper Coast Geopark in Ireland doubled its visitor numbers within three years of UNESCO recognition in 2004, generating €500,000 annually and creating new tourism and hospitality jobs (Fitzpatrick, 2015).

These examples collectively highlight how UGGp designation can enhance tourism development, strengthen local economies, and promote sustainable management of geological and cultural heritage, while also illustrating the importance of equitable distribution of benefits across communities..

2.2 The Potential Advantages of Partnership Programmes with UGGps

UNESCO Global Geoparks (UGGps) actively promote sustainability by involving local communities in job creation, income generation, and raising awareness of Earth heritage (Lee & Jayakumar, 2021). Partnerships with community members, businesses, and educational institutions facilitate inclusive development, foster transnational collaboration, and drive tourism growth, benefiting stakeholders at multiple levels (Hose, 2012; McKeever & Zouros, 2005; Farsani et al., 2012; Ristiawan, Huijbens & Peters, 2023). Such partnerships provide cultural and educational benefits, enhancing environmental stewardship and preserving traditional knowledge (Hose, 2012).

Collaboration between Geopark management and local communities delivers significant advantages, including cooperative initiatives like Geofood, support for economic and environmental development, preservation of cultural heritage, social cohesion, and community engagement. These partnerships also strengthen global networking, attract funding opportunities, and enhance the visibility of local stakeholders.

Economically, partnerships stimulate local economies through geotourism development and support for small and medium-sized enterprises. Collaborative efforts improve infrastructure, increase visitor spending, and enhance regional branding, collectively contributing to economic growth (globalgeoparksnetwork.org). One prominent example is the Geofood programme, adopted by 42 UGGps worldwide under the slogan ‘Visit and Taste’. This initiative fosters local food networks, promotes regional identity, creates new tourism and educational opportunities, and facilitates the exchange of good practices. Geofood products include geo-bread, herbal teas, honey, wine, aromatic soaps, oils, and other items linked to local geology and culture.

Vale et al. (2019) describe Geofood products as ‘gastronomic souvenirs’, connecting geological heritage with local food production, while certification ensures that raw materials and processing are preferably sourced within the Geopark (Gentilini & Thjømøe, 2015; Farsani et al., 2014). Traditional crafts, including wood, wicker, metal, and stone products, also benefit from such partnerships, creating functional items, decorations, and souvenirs that enrich the cultural and economic landscape.

Environmental benefits of partnerships include strengthened conservation initiatives and the adoption of sustainable land-use practices (Reynard et al., 2016). Geoparks raise awareness and provide management frameworks for environmental stewardship (Liu et al., 2019; Roberts, 2021). While evidence largely comes from well-established Geoparks, these collaborations demonstrate the potential for broad conservation impacts.

Partnerships also enhance sustainable tourism by developing attractions such as educational trails, guided tours, eco-friendly accommodations, and cultural activities. These initiatives boost visitor

spending, support local businesses, preserve cultural heritage, and encourage environmentally responsible practices (UNESCO, 2023; Arrage, 2024). Examples include bird-watching, hiking, yoga, photography, and geotours, as well as ecological initiatives in accommodation, healthy diets, and the use of natural materials in interiors.

Local cultural heritage and identity are further strengthened through these partnerships. By integrating traditions, folklore, and local history into tourism offerings, UGGps preserve intangible cultural elements and foster community pride. Active participation in decision-making ensures that projects align with both geological and cultural values, promoting sustainable practices and regional branding (UNESCO, 2015; Arrage, 2024).

Educational collaborations often involve schools, universities, research institutions, and NGOs, promoting geo-education, environmental awareness, and sustainable practices. Geoparks function as 'outdoor classrooms', advancing knowledge on geology, climate change, and conservation (Fernández Álvarez, 2020; Reynard et al., 2016). Notable examples include the Beigua Geopark 'Junior Geoparker' programme in Italy, which engages children aged 6–11 in educational workshops and nature explorations, and the Adamello-Brenta Geopark initiatives, which educate approximately 10,000 schoolchildren annually on geology, nature protection, and sustainability. The Villuercas-Ibores-Jara Geopark in Spain involves over 2,500 students each year, promoting collaborative learning about geology, environmental stewardship, and cultural heritage.

Social cohesion and community engagement are key outcomes of partnership programmes. Local involvement fosters a sense of ownership, strengthens cultural ties, and enhances governance capacity. Engagement with community groups promotes inclusive decision-making and improves infrastructure, services, and community facilities, thereby enhancing residents' quality of life (Dowling & Newsome, 2017; globalgeoparksnetwork.org). Transnational collaborations and Geopark twinning facilitate knowledge exchange, sharing of best practices, and collective action, further reinforcing social cohesion and community pride (Dowling, 2018).

Finally, global networking and funding opportunities are amplified through partnership programmes. Membership in the UGGp Network allows for transnational collaboration, access to funding, joint research, and cultural exchange.

This increases visibility for all stakeholders, including local businesses, artisans, and tourism operators, leveraging the Geopark's brand and international recognition (Hose, 2012; Farsani et al., 2012; globalgeoparksnetwork.org).

Empirical examples illustrate these benefits:

- Arouca Geopark (Portugal): Local artisans, businesses, and schools collaborate to promote Geopark-branded products, resulting in a 30% increase in local income and enhanced education through geology-focused curricula and field trips (Rodrigues & Panizza, 2017).
- Las Loras Geopark (Spain): Partnership with a bakery led to the creation of 'Geo-bread' shaped like ammonite fossils, linking local culinary traditions to geological heritage.
- Zigong Geopark (China): Collaboration with the 'Green Tea Spring' enterprise combines local geology and traditional tea culture, offering a holistic tourism experience that benefits both the local economy and sustainability.
- Marble Arch Caves UGGp (Northern Ireland/Ireland): Cross-border partnerships promote geotourism and sustainable development, increasing employment by 20% and restoring habitats (Fáilte Ireland, 2018).
- Vikos–Aoos Geopark (Greece): Partnerships with hotels, restaurants, and tour guides boosted revenue for local businesses by 15%, while supporting traditional crafts and sustainability

initiatives (Kyriacou, 2020).

- Beigua Geopark (Italy): Educational programmes engage children in nature exploration and sustainable tourism, supporting eco-friendly accommodations and guided tours (Burlando, 2018).
- Adamello-Brenta Geopark (Italy): Annual programmes involve 10,000 children, enhancing environmental awareness and long-term sustainability.
- Villuercas-Ibores-Jara Geopark (Spain): Over 2,500 students participate annually, fostering collaborative learning about geology, cultural heritage, and environmental stewardship (Fernández Álvarez, 2020).

The main challenge in developing Geoparks for sustainable tourism lies in ensuring active local participation and multifaceted sustainability. This requires strong commitment from communities, development agencies, and policymakers to implement socio-economic strategies and support bottom-up involvement in planning (Ngwira, 2019).

3. Biokovo-Imotski Lakes UNESCO Global Geopark

The Imotski Region is primarily located within the Imotski field in the north-eastern part of Split-Dalmatia County, Croatia, covering an area of 708 km². Historically, it belonged to the old Croatian parish of Imota, a small portion of which extends into the West Herzegovina and Herceg-Bosnia counties in neighbouring Bosnia and Herzegovina. Its favourable Mediterranean climate, strategic location near the Adriatic Sea, proximity to Croatian ports, nearby ski resorts in Bosnia and Herzegovina, the construction of the A1 motorway, and the St. Elijah tunnel towards the Makarska Riviera have all accelerated tourism development in the Imotski Region.

Tourism offerings have diversified significantly, including new accommodation facilities and a range of tourist products and activities, such as sports and recreational opportunities, cultural experiences, eno-gastronomy, cycling routes, geotrails, and the Camino Imota pilgrimage route, all forming an integral part of the region's tourism portfolio (Karamehmedović & Kolovrat, 2021). The region's cultural heritage includes the urban structure of the town of Imotski, its architecture, steps, museums, galleries, churches, fortresses, and stećci, as well as intangible cultural heritage linked to religious and traditional customs and lifestyles.

Tourism development in the Imotski Region has accelerated markedly over the past decade. In 2006, the region had only two registered accommodation facilities and recorded 2,100 overnight stays. By 2012, overnight stays exceeded 5,000. In 2014, overnight stays doubled compared to 2012, and by 2015, a further 76% increase was recorded, reaching 18,800 overnight stays. The most notable growth occurred in 2018, with a 292% increase compared to 2017 (Table 1).

This growth was driven largely by an expansion in accommodation capacity. In 2006, only two facilities were available, increasing to four by 2012. By 2018, accommodation facilities rose to 182, doubling since 2012, and by 2024, they had increased to 606, representing a 66% rise. Holiday homes with pools form the bulk of this expansion, a factor that proved particularly advantageous during the COVID-19 pandemic (Imotski Tourist Board & eVisitor system, 2024).

Tablica 1. Overnight stays (2012-2024) in the City of Imotski

2012		**2013**		**2014**		**2015**		**2016**	
OS (CN)	Inc. (%)	OS (CN)	Inc. (%)	OS (CN)	Inc. (%)	OS (CN)	Inc. (%)	OS (CN)	Inc. (%)
5,083	/	9,718	91	10,669	9,8	18,769	76	13,382	-29

2017		**2018**		**2019**		**2020**		**2021**	
OS (CN)	Inc. (%)	OS (CN)	Inc. (%)	OS (CN)	Inc. (%)	OS (CN)	Inc. (%)	OS (CN)	Inc. (%)
18,846	40,8	73,830	**291,8**	96,056	30	76,449	-20,4	100,812	31,9

2022		**2023**		**2024**	
OS (CN)	Inc. (%)	OS (CN)	Inc. (%)	OS (CN)	Inc. (%)
143,211	42	149,448	4,4	163,512	9,4

Endnote for Table 1: Until 2015, data was available only for the town of Imotski, while from 2016 onwards, data has been recorded for the entire Imotski Region. This table contains data only for the town of Imotski for the specified period. The new concept of recording data is the reason for the recorded decline in the number of overnight stays in the city of Imotski in 2016. In 2020, the decline occurred due to the COVID-19 pandemic.
Legend: OS (C)=overnight stays in cardinal numbers
Inc.% =An increase in percentage compared to the previous year
Source: Author's calculation (2025); data from Imotski Tourist Board and the eVisitor system (2024).

The Imotski Region boasts geological heritage of exceptional significance, as confirmed by the inclusion of the Biokovo-Imotski Lakes UGGp (BILUGGp) on the UNESCO Global Geoparks List in March 2024.

The BILUGGp covers 533.20 km² and features 54 geolocalities, with 22 situated in the Imotski Region, eight of which are part of the Natura 2000 ecological network. Key natural monuments include the Red and Blue Lakes, and the lakes of Prološko Blato, namely Ričice, Galipovac, Knezovića, Mamića Lake, Two Eyes Lake, among others (Figure 1). The Red and Blue Lakes are karst formations and among Croatia's most significant geomorphological sites, with the Blue Lake drying periodically under adverse hydrological conditions and the Red Lake remaining perennial, reaching a depth of 528 metres (Management Plan 2022–2026 Biokovo-Imotski Lakes Geopark, 2021).

The BILUGGp features a network of hiking trails linking geological, natural, archaeological, and cultural sites into a cohesive visitor experience. Planned initiatives include the development of the Zovnjača Cave for guided tourist visits, complete with in situ interpretation panels. A modern visitor centre is envisaged at the Režija Duhana building complex (Dogana), incorporating geological columns and maps, an information desk, multimedia content, a souvenir shop with Geopark partner products, a laboratory, aquariums showcasing native fish species, and a research and rescue centre for the olm (Proteus anguinus).

Legislative and organisational frameworks are essential for UGGp establishment and management, ensuring effective implementation of sustainable development strategies and facilitating active community participation. These frameworks provide the legal and operational structure for integrating education, conservation, and local development (UNESCO, 2015; Arrage, 2024).

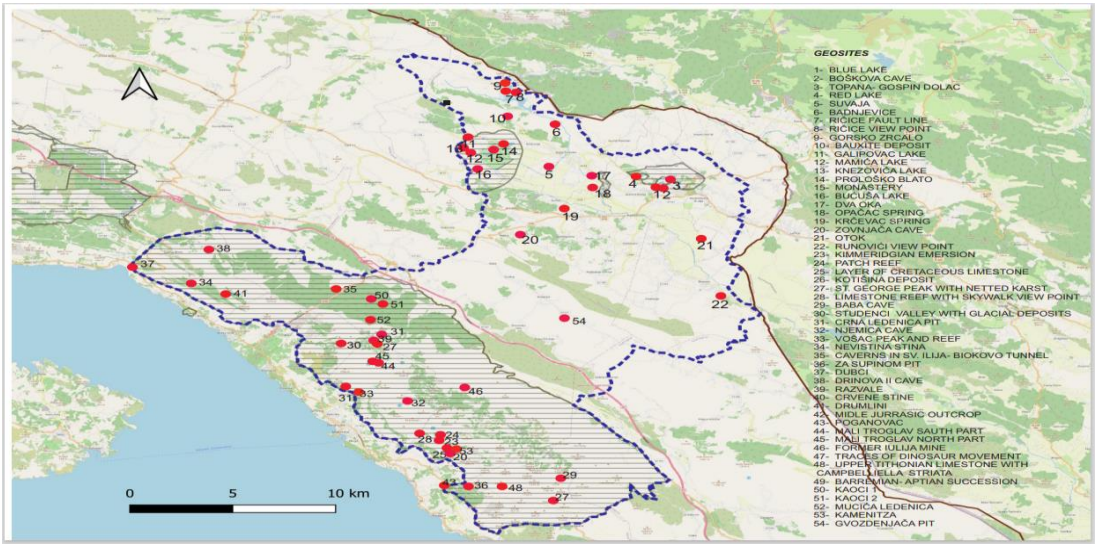

Figure 1. Biokovo-Imotski Lakes UNESCO Global Geopark with geolocalities
Source: GeoPark Biokovo-Imotski Lakes (2021). Management plan 2022-2026 Biokovo-Imotski Lakes Geopark.

The management of BILUGGp is supported by the Act on Tourist Associations and Promotion of Croatian Tourism, the Act on Nature Protection, the Tourism Development Strategy of the Imotski Region, the work plans of the Imotski Tourist Board, and the Management Plan 2022–2026 Biokovo-Imotski Lakes Geopark. Collectively, these documents underpin Geopark management, geotourism development, and the wider tourism strategy for the region.
The BILUGGp operates under a non-governmental organisation whose governance structure includes the Assembly, Board of Directors, Supervisory Board, Advisory Board, and Executive Director (Figure 2).

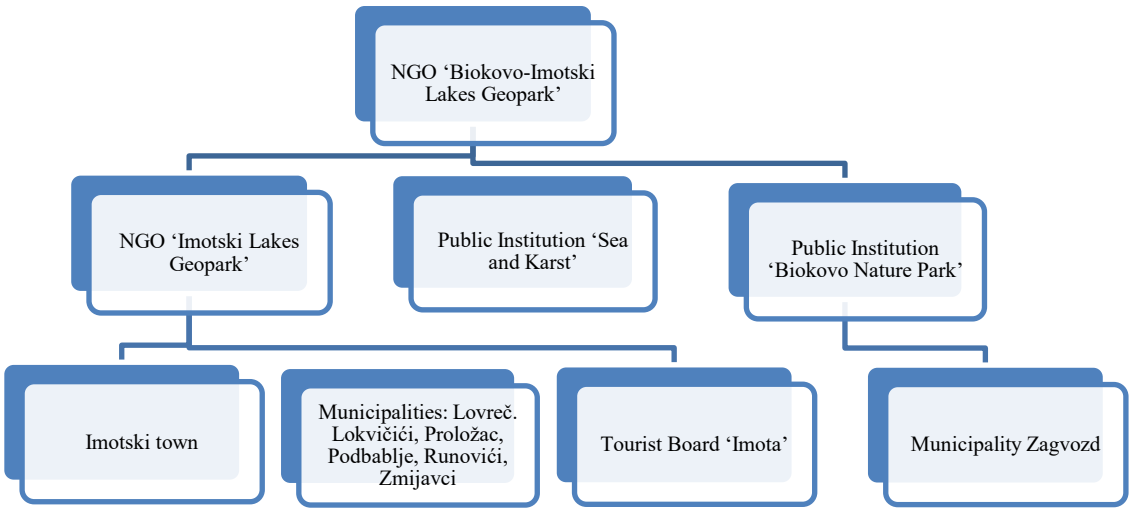

Figure 2. Management structure flowchart of the Biokovo-Imotski Lakes Geopark Association
Source: GeoPark Biokovo-Imotski Lakes (2021). Management plan 2022-2026 Biokovo-Imotski Lakes Geopark.

The management plan, drafted in September 2021, outlines the Geopark's purpose, goals, activities, resource use, financing, and staffing for the next five years. The plan defines four primary objectives:

1. Protection, geoconservation, and research of natural and cultural-historical heritage.
2. Development of geotourism and geoeducation.
3. Sustainable development of the local community.
4. Capacity-building for the Biokovo-Imotski Lakes Geopark (Management Plan 2022–2026 Biokovo-Imotski Lakes Geopark, 2021: 47).

4. Methodology

With the recent designation of BILUGGp, this research aims to explore the anticipated benefits of UNESCO Global Geopark (UGGp) status for tourism development in the Imotski Region, as well as assess the advantages of partnerships with the Geopark. Tourism professionals and local stakeholders expect the region to attract more visitors, particularly those interested in its geological features. This growth is predicted to boost visitor spending, diversify tourism offerings, and stimulate the development of new accommodation, products, traditional crafts, and attractions. The theoretical section of this paper outlines the benefits of UGGp status and partnerships, highlighting successful global Geoparks and illustrating economic and social benefits that could be adapted for BILUGGp projects.

Although the theoretical framework provides valuable insights, gaps remain in existing research. These gaps can be grouped into two main areas. First, comparability of BILUGGp with other UGGps is limited, as it only gained UGGp status in 2024, making it difficult to assess its full potential for tourism development in the Imotski Region. Second, empirical research is scarce, particularly involving expert perspectives, as most tourism surveys focus on local populations or visitors rather than professional stakeholders.

The research objectives were to determine:

1. The expected benefits of BILUGGp designation for tourism development in the Imotski Region.
2. The anticipated advantages of partnership programmes with the Geopark.

To address these questions, two complementary studies were conducted: an internet-based survey and an empirical survey using the e-Delphi technique.

4.1 Internet-based Research

Internet-based research combined qualitative and quantitative methods (Leburić & Sladić, 2004). Primary online research on Geoparks, supported by scientific and professional literature, as well as relevant documents, identified best practice indicators regarding the expected benefits of UGGp designation for tourism development. These indicators also highlighted potential advantages of partnership programmes. The selected projects and activities were analysed for their applicability to BILUGGp, providing guidance for supporting tourism and local development in the Imotski Region.

4.2 Empirical Research – e-Delphi Study

The e-Delphi technique (Visković, 2016) was applied in two rounds. The Delphi method has been widely used in Geopark studies to gather expert opinions on sustainable development (Fanwei, 2014; Ferreira & Valdati, 2023), geoconservation (Chauhan et al., 2021; Ferreira & Valdati, 2022), and management strategies (Fernández et al., 2014; Ferreira & Valdati, 2023). This method enables

structured collection and synthesis of insights from multiple stakeholders, including experts in geoscience, tourism, and environmental management, and is particularly valuable for complex, interdisciplinary topics where expert judgement informs decision-making and strategic planning.
The e-Delphi survey was conducted via Google Forms, with links distributed to panellists by email. Online questionnaires are cost-effective and allow easy data import into statistical software. Participants were encouraged to respond clearly and politely (Kabir, 2016). The survey combined open-ended, closed-ended, and multiple-choice questions, using nominal and interval scales, including a five-point Likert scale. Initial graphical results were generated in Google Forms, but all data were further processed statistically.

4.3 Selection and Filtering of Questions Between Rounds

After the first round, arithmetic and, where appropriate, weighted means were calculated from both open- and closed-ended responses. Key statements or themes with the highest consensus or notable differences in opinions were identified. These statements were then included in the second round to achieve a higher level of agreement among panellists. This process ensured that only questions relevant to consensus were focused on, rather than reintroducing all original responses.

4.4 Participants

The study involved 32 panellists, including members of the National Geopark Commission, directors of UGGps, university professors in tourism and ecology, employees of the Croatian Geological Institute, and staff and partners of BILUGGp. Participants were selected purposively, based on their expertise and role in the Geopark or tourism. Their contribution was crucial, combining geological, tourism, and management knowledge, allowing for a multidisciplinary assessment of the benefits of UGGp status and partnership programmes. Most had participated directly in the evaluation and application process of the Biokovo–Imotska Lakes Geopark for UNESCO designation. One of the authors, Luka Kolovrat, as the then director of the Imota Tourist Board, played a key role in promoting and supporting the application and development process, particularly regarding tourism valorisation and local community engagement. He also led the selection of panellists in agreement with the co-author.
Of the 32 surveys distributed, 91% participated in the first round and 93% in the second, considered sufficient for reliability (Van Zolingen & Klaassen, 2003). Literature suggests no strict consensus on the required number of Delphi panellists (Visković, 2016). Okoli and Pawlowski (2004) recommend 10–18 experts per panel, noting that attrition is generally not problematic in single surveys.

4.5 Survey Content and Data Analysis

In addition to sociodemographic data, the survey addressed the general condition and potential of BILUGGp for advancing tourism development. The survey design was based on Karamehmedović and Kolovrat (2021).
Research findings are presented using percentages and arithmetic means, providing precise representation of variables. Expressing results as percentages is common in Delphi studies, as it standardises data presentation and highlights the distribution and relative importance of responses (Hand & McGowan, 2004).

5. Results of the Empirical Research and Discussion

The principal research conducted in this study is empirical, utilising the e-Delphi method through a two-round survey administered via Google Forms. Of the 32 surveys distributed, 29 panellists (91%) participated in the first round and 27 (93%) in the second round, ensuring robust participation across both rounds.

5.1 Sociodemographic Profile of Panellists

The sociodemographic profile of respondents in the first round was as follows: gender – 55% male and 45% female; age – 31–40 years (21%), 41–50 years (38%), and 51–60 years (28%); education – 90% with a Master's degree or higher. A substantial proportion (74%) had previous experience working in tourism or were involved in the organisation of tourist events. By profession, 35% of respondents were geologists and 34% were economists. While sociodemographic characteristics are documented, they do not influence the results, as Delphi and e-Delphi methods focus on the informed opinions of experts in the field under study. Notably, the professional experience of panellists underscores their capacity to provide reliable and informed perspectives on the expected benefits of BILUGGp designation and partnership programmes.

5.2 Results 1: Expected Benefits of BILUGGp Designation

The first research objective was to determine the anticipated benefits of UNESCO Global Geopark (UGGp) status for tourism development in the Imotski Region. On a five-point Likert scale, 59% of panellists rated the utilisation of the region's tourism potential as medium. Half of the respondents considered the cultural and natural attractions of the Imotski Region insufficiently marked or promoted. Notably, three-quarters of panellists were highly familiar with the BILUGGp project, and 52% believed that the Geopark would significantly enhance tourism development in the region.
When addressing the specific question, 'The expected benefits of designation for the tourism development of the Imotski Region,' panellists identified the following:

- Significantly enhance the destination's visibility – 37%
- Enhance the development of new tourist facilities in the destination – 33%
- Create the prerequisites for the development of geotourism – 32%
- Possibility of accessing funding from various sources – 8%

Panellists expressed scepticism regarding the potential of the project to raise ecological awareness among the local population. Given that education is a central aim of the UGGp programme, it is recommended that BILUGGp management organise workshops and specialised programmes to address this issue. Concerns were also raised about whether UNESCO designation alone would improve protection of certain sites and regarding the effectiveness of collaboration with other European and global Geoparks.
These findings align with previous research highlighting experts' prioritisation of geoheritage site protection (Chauhan et al., 2021) and reflect global trends in UGGp development, where visibility and partnership programmes are consistently identified as key drivers of regional tourism growth (Reynard et al., 2016; Ferreira & Valdati, 2023).

In a broader context, the designation of Geoparks provides a foundation for selective tourism, leveraging the area's unique geological, cultural, and natural features to attract specific tourist segments. Branding areas as UNESCO Global Geoparks increases global visibility, differentiates them from other destinations, and stimulates visitor interest. Thus, the empirical findings confirm and extend the insights from the literature, highlighting the importance of visibility and partnerships for regional tourism development.

5.3 Results 2: Expected Benefits of Partnership Programmes

The second research objective examined the expected advantages of partnership programmes with the Geopark. Panellists highlighted the following benefits:

- Participation in special UNESCO Geopark projects, such as Geofood – 37%
- Better promotion in general – 30%
- Greatest visibility of all stakeholders – 26%
- Opportunities for networking with partners from other Geoparks – 7%

Unlike the first set of responses, participation in specific UNESCO Geopark projects, such as Geofood, received the highest rating in this question. Panellists were uncertain about the increased potential for product sales within the Geopark and considered representation at symposia or conferences less important. Nevertheless, collaborative promotional efforts could improve product sales, and partnerships generally enhance the positioning of the entire region within the global Geopark network.
Geotourism development in BILUGGp involves a partnership between the government, local communities, and private stakeholders, including local businesses, outdoor companies, tour agencies, restaurants, and accommodation providers. Local residents play a crucial role in shaping geobrands, generating sustainable and intimate images that enhance visitor experiences and stimulate geotourism (Lee & Jayakumar, 2021). When developing projects such as Geofood or other geoproducts, it is recommended that UGGps adopt common definitions and standardised procedures while preserving each territory's unique identity (Rodrigues et al., 2021). This approach facilitates the establishment of impact assessment indicators to evaluate the effectiveness of strategies and the socio-economic impacts of Geoparks. Understanding how residents perceive tourism activities in their surroundings is key to the success of the destination (Pérez-Calderón et al., 2022).
Currently, four geo-trails have been established within BILUGGp: Blue and Red Lakes, Lokvičićka Lakes, and Badnjevice, with the Vrljika geological trail under preparation. The next planned project is the Ričice geological trail. The flagship initiative is the Visitor Centre, for which a conceptual design has been completed, and funding applications are pending. Partnerships with local self-government units, the Imota Tourist Board, the Biokovo Nature Park, and the Public Institution 'Sea and Karst' are reflected in the governance structure of the BILUGGp Association. The UGGp programme promotes close collaboration between Geoparks and local stakeholders, producers, and other entities. Interested partners may display the BILUGGp logo on promotional materials and be listed on the Geopark website, further enhancing visibility through newsletters and brochures.

5.4 Discussion and Integration with Literature

The empirical results directly address the research objectives, providing evidence of the expected benefits of UGGp designation and partnership programmes. The findings confirm that BILUGGp has significant potential to enhance tourism visibility, stimulate geotourism, and develop new facilities, while highlighting areas requiring targeted interventions, particularly in environmental education and site protection. Similarly, partnership programmes are anticipated to strengthen regional branding, promote local products, and facilitate international networking. These outcomes align closely with existing literature, including Reynard et al. (2016), Ferreira and Valdati (2023), Lee and Jayakumar (2021), Rodrigues et al. (2021), and Pérez-Calderón et al. (2022), thus situating the findings within broader academic and practical discourse on Geopark tourism development.

6. Conclusion

The designation of the Biokovo–Imotski Lakes UNESCO Global Geopark (BILUGGp) is expected to bring multiple benefits and development opportunities to the wider region, including Imotski, Biokovo, Zabiokovlje, and the Makarska Riviera. This research aimed to achieve two main objectives: 1) to identify the anticipated benefits of the Geopark designation for tourism development in the Imotski Region; and 2) to assess the expected advantages of partnership programmes with the Geopark. Additionally, the study reviewed good practice examples from various UGGps, highlighting projects and activities that could be adapted to benefit BILUGGp.

The empirical results indicate that the expected benefits for tourism development in the Imotski Region include significantly enhancing destination visibility (37%), boosting the development of new tourist facilities (33%), creating prerequisites for geotourism development (32%), and enabling access to various funding sources (8%). The anticipated benefits of partnership programmes include participation in special UNESCO Geopark projects such as Geofood (37%), improved overall promotion (30%), increased visibility for stakeholders (26%), and networking opportunities with other Geoparks (7%). These findings align with the literature showing that UNESCO Global Geopark status can strengthen geotourism, attract selective tourist segments, and enhance destination branding (Ferreira & Valdati, 2023; Reynard et al., 2016).

The region's rich geodiversity, cultural heritage, excellent geolocation, and strong transport connections provide a solid foundation for geotourism. Empirical findings also reveal the importance of education, local engagement, and structured partnerships to maximise the benefits of UGGp status. While some experts expressed scepticism regarding ecological awareness and site protection, targeted educational programmes, geoguiding, and collaborative initiatives could address these challenges, supporting geoconservation and sustainable tourism development.

This study contributes to scientific knowledge by addressing gaps in the literature and providing a model for assessing the benefits of UGGp designation and partnerships. It offers practical applications for tourism planners, local authorities, and stakeholders, guiding sustainable development strategies. Future research could explore residents' perceptions of Geopark impacts, develop indicators for monitoring benefits, evaluate management strategies, and balance economic growth with environmental and cultural preservation.

Overall, BILUGGp has strong potential as a catalyst for sustainable tourism and local development. Realising this potential will require coordinated efforts from the Geopark management, local and

regional authorities, institutions, organisations, stakeholders, and the wider community to achieve economic, social, and environmental benefits across the Imotski Region and beyond.
Finally, it should be noted that this research is preliminary, as the Biokovo–Imotski Lakes Geopark has only recently been designated a UNESCO Global Geopark. Therefore, the expected contributions to tourism are based on assumptions and planned initiatives, and the actual effects of the status will need to be empirically verified in the future**.**

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UNESCO Global Geopark Biokovo–Imotska jezera: Potencijalni doprinos unapređenju turizma u Imotskoj regiji

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Sažetak: Svrha istraživanja bila je utvrditi očekivane koristi proglašenja Geoparka Biokovo–Imotska jezera (BILUGGp) UNESCO-vim geoparkom za razvoj turizma u Imotskoj regiji i očekivane koristi partnerskih programa s Geoparkom. U radu se navode primjeri dobrih praksi odabranih UNESCO-vih geoparkova, ističući projekte i aktivnosti koje bi se mogle prilagoditi za potporu BILUGGp. Empirijsko istraživanje provedeno je korištenjem e-Delphi tehnike, uz internetsko istraživanje UNESCO-vih geoparka, relevantnih dokumenata, znanstvene i stručne literature. Internetska analiza obuhvatila je 213 UNESCO-vih geoparka, odnosno njihove web-stranice u 48 zemalja, dok je u e-Delphi istraživanju sudjelovalo ukupno 27 panelista. Rezultati pokazuju da očekivane koristi proglašenja Geoparka za razvoj turizma u Imotskoj regiji uključuju značajno povećanje prepoznatljivosti destinacije (37%), poticanje razvoja novih turističkih objekata (33%) i stvaranje pretpostavki za razvoj geoturizma (32%). 2) Očekivane koristi partnerskih programa s Geoparkom očituju se u suradnji s drugim geoparkovima na specifičnim projektima (kao što je Geofood) (37%), poboljšanoj promociji (30%) i povećanoj vidljivosti dionika (26%). Zaključno, proglašenje Geoparka Biokovo-Imotska jezera UNESCO-vim geoparkom pruža niz prednosti i razvojnih mogućnosti za cijelu regiju, uključujući Imotski, Biokovo, Zabiokovlje i Makarsku rivijeru. Ono potiče razvoj turizma, jača geoturizam i brendiranje destinacije, olakšava suradnju s drugim geoparkovima na konkretnim projektima i znanstvenim istraživanjima te podržava razvoj poljoprivrede, ugostiteljstva, trgovine i usluga. Nadalje, potiče revitalizaciju tradicionalnih obrta i običaja, stvara raznolike partnerske programe, promiče održivo upravljanje prirodnom i kulturnom baštinom te doprinosi dobrobiti lokalnog stanovništva.

Ključne riječi: UNESCO-vi geoparkovi, Geopark Biokovo-Imotska jezera, Delphi metoda, turistički razvoj, koristi, partnerstva
JEL klasifikacija: Z32