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Environmental & Socio-economic Studies

DOI: 10.2478/environ-2023-0023

Environ. Socio.-econ. Stud., **2023, 11, 4: 49-61**

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Original article

Promotion of biosphere reserves: How to build awareness of their importance for sustainable development?

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ABSTRACT

The biosphere reserves are hybrid territories united protected and non-protected areas with the soft economic and social activities. They bring unique opportunities for local people, businesses and other relevant stakeholders. However, because of low public awareness the potential of some biosphere reserves, is not adequately utilized. This article addresses the research gap related to the identification of the importance of promoting the sustainable development of biosphere reserves and the possibilities of exploiting and enhancing their spatial development. The aim of the research was to clarify the role and importance of promotion for the sustainable development of biosphere reserves. It was focused on investigating the importance of promotion tools in terms of creating awareness of biosphere reserves. The research took place in two Slovak biosphere reserves – Poľana and the Tatras. This article identifies and analyzes the use of promotional tools in these two selected biosphere reserves through secondary sources (websites, profiles on social networks) and in-depth interviews with the managers of these biosphere reserves. The awareness of biosphere reserves was researched with the use of a questionnaire survey in both biosphere reserves. This article defines the problem areas and opportunities, which may contribute to the development of awareness about biosphere reserves which is inevitable for their further sustainable development. The research results confirmed that their promotion influenced the sustainable development of the biosphere reserves. Thanks to their accurate promotion, entrepreneurs and residents can better evaluate the impact of their activities on the sustainability of a biosphere reserve. This contributes to reducing the conflicts that arise between nature protection and economic and social profit.

KEY WORDS: promotion, biosphere reserves, strategic development, sustainability, awareness

ARTICLE HISTORY: received 21 September 2023; received in revised form 8 December 2023; accepted 11 December 2023

1. Introduction

Current developments in the world are full of turbulence and unpredictable changes that pose numerous challenges for society. The sustainable development of society is increasingly vulnerable due to economic, social and/or environmental problems and are exposed to new challenges related to the processes of globalization. The technological revolution, that transforms society, manifests itself in different spheres of our lives. Thanks to global challenges the society is becoming fragile, the development is unpredictable, what requires the interdependence of countries. However, the key deciding factor lies in a long-term perception of management of limited natural resources.

To eliminate the negative impacts of the technological revolution in countries, as well as to highlight how to achieve a sustainable future for future generations, the United Nations adopted the document titled "Transforming our world: the 2030 Agenda for Sustainable Development" (further referred as

Agenda 2030) in 2015. This document contains the comprehensive selection of global priorities to foster the concept of sustainable development. The aim of Agenda 2030 is to guide the structural political, economic and social transformation of individual countries in response to the threats currently faced by the human race. Agenda 2030 integrates all three dimensions of the sustainable development concept: economic, social, and environmental.

An important contribution to the achievement of the Agenda 2030 objectives is environmental protection and the sustainable use of biodiversity realized by UNESCO, which highlights the links between cultural diversity, biodiversity, social aspects, and ethical issues.

Biosphere reserves, like world heritage sites, are areas of international importance declared by the main body of the UNESCO Program Man and Biosphere – International Coordinating Council MAB (ICC MAB) (§ 28b paragraph 1 of Act No. 543/2002 on nature and landscape protection as amended). They are internationally recognized as model areas for the practical application of interdisciplinary knowledge to understand and maintain the relationship between man and nature and to coordinate change, including conflict prevention and biodiversity protection. Their sustainable development and conservation contribute significantly to the fifteenth goal of the Agenda that says to "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss", which is, closely linked to all the other Agenda 2030 objectives that concern the concept of sustainable development. Maintaining resilient ecosystems and their services, and protecting our planet's biodiversity, is the basis of the fight against poverty and the fight for human health and welfare. Biodiversity, as such, supports the achievement of the sustainable development goals, and the loss of biodiversity poses a threat to both security and peace (UNITED NATION, 2015; UNESCO, 2021).

This article clarifies the role and importance of promotion in the sustainable development of biosphere reserves. The research aim was to identify the main problem issues and potential solutions for the development of promotional activities in order to eliminate the weaknesses of the biosphere reserves management and thus to raise the awareness of them. This research elaborates the critical analysis of approaches to the functions of biosphere reserves, their management with the exploitation of innovative tools. The research is verified by using Pol'ana and Tatras Slovak biosphere reserves as examples. We present the results of our research which focused on promotion activities aimed at increasing awareness of their importance. Finally, we provide potential solutions to develop promotion activities that raise the awareness of biosphere reserves. The main source of data included international and national documents related to biosphere reserves, as well as interviews with managers of biosphere reserves and the chairwoman of the Slovak Committee for the Program Man and Biosphere.

The reason for the research is the fact that public awareness of the importance of biosphere reserves is minimal. Marketing communication tools, especially promotion, can be effective in the solution of this issue (MOILANEN & RAINISTO, 2009; VUIGNIER, 2016; VAŇOVÁ ET AL.; 2022; ROJÍKOVÁ, 2022). In the context of biosphere reserves, some researchers deal with participative governance in biosphere reserves where communication with stakeholders plays an important networking task (e. g. POOL-STANVLIET & COETZER, 2020; REED & PRICE, 2020; DONEVSKA, 2021). However, there is no evidence that the research aimed to investigate the role of promotion in the management of the biosphere reserves as a specific type of territory. That is why the added value of our article provides comprehensive knowledge on how to develop biosphere reserves based on the principles of marketing strategic planning and the active exploitation of promotion as an innovative approach to their management.

However, there is no evidence of any research that examines the role of promotion in the management of biosphere reserves as a specific type of territory.

2. Literature review

Biosphere reserves were established in the 1970s under the UNESCO Man and Biosphere Program (MAB). Development of the international environmental agenda resulted in the second international congress on biosphere reserves in Seville, Spain, in 1995, where the Seville Strategy was formulated, including the Seville Vision for the 21st century (VOLOŠČUK, 1998). The key activities for implementing the biosphere concept and the Statutory Framework of the World Biosphere Reserves Network were defined. Biosphere reserves are areas where the land management approach that harmonizes human-nature relations is implemented. They include countries of different characters defined geographically (BATISSE, 1985; UNESCO, 1996; BRIDGEWATER, 2002). These are representative

territories with their role and mission beneficial to both nature and man. They serve as an example of sustainable living, acceptable balance, and the human relationship with the natural environment. They play an important role not only for the local population but also for society. The global network of biosphere reserves currently consists of 727 territories in 131 countries. Of the total number, 22 biosphere reserves are cross-border. The number of biosphere reserves varies based on the ICC MAB decision (UNESCO, 2021).

A biosphere reserve as a hybrid territory with united protected and non-protected areas has three functions. The first one is protection with an emphasis on protection at all levels. The second one is a development, which is socio-culturally and ecologically sustainable and the last one emphasises logistical support, including support for project demonstrations, environmental education and training, research and monitoring in relation to local, national, regional and global issues of protection and sustainable development (VOLOŠČUK, 1998).

Due to its functions, and according to the Framework Statutes, each biosphere reserve should consist of three zones, where activities for protection of natural and cultural diversity are realised to different extents using research, monitoring, education and training (SEVILLE STRATEGY, RESOLUTION NO. 28 C/2.4, 1995). The first zone, the so-called nuclear zone, is the most protected and most valuable part of the territory in terms of natural values, with the aim to preserve biodiversity and monitor undisturbed ecosystems. This zone also contributes to maintaining ecosystem services. In parallel to protection, certain human activities, such as environmental education, research, environmental protection, and rehabilitation, as well as recreational and eco-tourism activities can be developed within this zone. The second zone, the so-called buffer zone, surrounds the nuclear zone and is used for environmentally compatible activities. This zone also reduces the impact of human activities on the nuclear zone and is essential to preserving biodiversity and cultural diversity. The third zone, the so-called transition zone, is the basis for the management and sustainable development of natural resources. A much wider range of economic activities that benefit the socio-economic development of the local population can take place in this zone. However, these activities must respect the specific objectives of each biosphere reserve (FABRICIUSOVÁ & SLÁVIK, 2010).

With regard to the sustainable development of these three zones in biosphere reserves, a strategic approach is considered to be the precondition. According to BERMAN & WEST (1998) this approach concerns the systematic strategic planning of organization and change, including the creation of a society-wide consensus, and a common vision for a better future and sustainable development of the place.

Strategic planning is a process of creating and maintaining a strategic balance between the goals and opportunities of the territory in terms of changing market opportunities and societal needs (DENTE, 2014). The real conditions of the territory, are represented by specific planning documents that address the development of various areas in the territory. Concerning this, marketing places belongs to the most recent management approaches to spatial development. According to WARNABY & MEDWAY (2013), MOILANEN & RAINISTO (2009), KAVARATZIS (2007), KOTLER ET AL. (1993), VAŇOVÁ (1996, 2021) and HOLCOMB (1994), the concept of marketing places concerns designing a place in such a way that the needs of the target segments are satisfied, and the territory is more desirable.

Marketing places is a continuous social process that makes it possible to make an impact on the sustainable development of the territory more effectively by building a sustainable competitive advantage, creating conformity between demand and supply on the territory at the market through specific marketing methods and tools. The process aims to minimize the risks of the territory that are related to entering the market, and to maximize social benefit through accepting its social role (VAŇOVÁ, 2006). Marketing places focuses on demand, building the specific competitive advantage of a territory (ANHOLT, 2007), introducing new methods, tools, and management approaches, creating conditions for the collective definition of objectives and direct participation of key actors (ESHUIS & KLIJN, 2012). An approach that does not directly involve these actors is not considered to be a marketing approach (VAŇOVÁ ET AL., 2010).

In order to achieve the set objectives for the place in the target markets, marketing places uses a set of controllable and interconnected marketing tools, which are referred to as the marketing places mix. Due to the specifics of the territory, the marketing places mix differs from the classic marketing mix. Based on the literature review (MAGRATH, 1986; KOTLER ET AL., 1993; VIGNALIS & DAVIES, 1994; VAŇOVÁ, 2006; KAVARATZIS, 2007; MOILANEN & RAINISTO, 2009; WARNABY & MEDWAY, 2013; ESHUIS ET AL., 2014), the marketing places mix consists of the following tools – product,

price, accessibility, promotion, human factor, partnership, and participation. Promotion, which is the key focus of our interest, should provide integration of marketing tools. The process of promotion starts with a "needs and wishes" survey and ends with the pre-sale and after-sale promotion. This covers plenty of activities in order to attract customers to visit a place as well as to inform the public about the territory and thus to engage stakeholders in developmental activities (LEE, 2022).

VAŇOVÁ ET AL. (2017) state that the function of promotion in marketing places is to provide information about the place as a whole and about its sub-products, in order to convince society, there is an advantage to the place. Furthermore, it should provide motivation for the target markets to „purchase" the products of the place; or to visit the place; to create a brand (MOILANEN & RAINISTO, 2009; VUIGNIER, 2016; ROJÍKOVÁ, 2022); to arouse the interest of the public in solving the problems of the place; to gain public support; to reach a mutual agreement between the subjects that influence the development of the place (VAŇOVÁ, 2006; HEREZNIAK, 2017; LEE, 2022). For this purpose, it is necessary to prepare a comprehensive strategy. This includes a mix of traditional and innovative promotion tools. According to KOTLER ET AL. (2021), MOILANEN & RAINISTO (2009), GOVERS & GO (2009), VAŇOVÁ ET AL. (2017) and others, the tools of the promotion mix include advertising, personal selling, sales promotion, public relations, on-line communication, location placement, guerilla and viral communication, word of mouth, mobile applications, and experiential marketing. Unlike traditional forms of promotion mix, an innovative approach makes it possible to reach target segments both in mass and individually, maintain the interest of target segments, convey individually tailored information and obtain feedback.

Although promotion is very important for the development of the place, it is often underestimated by the place management. This may result in insufficient attention being paid to it. Especially, from the public policy point of view, promotion enables management to inform the public about the territory, which makes stakeholders engage in developmental activities, as well as to build awareness of their importance. Furthermore, it may also influence the decisions of the public administration in relation to the sustainable development of managed territories

Due to the fact that biosphere reserves are not given adequate attention in the literature from a managerial perspective as well as in the national legislation of countries where the biosphere reserves are situated, this can lead to an unsystematic approach to its strategic development, which is also the case of the Slovak Republic (VITÁLIŠOVÁ ET AL., 2022). A basic methodological framework is given by the UNESCO technical guidelines, which in 2021 introduced the necessity to prepare a marketing strategy as well as a communication strategy (UNESCO, 2021). The main purpose is to promote the biosphere reserve towards its stakeholders, and/or to position the products and services of commercial businesses within the biosphere reserve for tourists and other customers, in order to generate income for local communities. Promotion of biosphere reserves should present the importance, positives and competitive advantages of individual biosphere reserves. A communication strategy would promote the competitive uniqueness of the natural heritage and present its importance for sustainable development by using promotion, the awareness about biosphere reserves should be increased, the collective action should be initiated, and should result in the effective participatory governance of relevant stakeholders. We try to verify these expected benefits based on our set of hypotheses and the presented research results

3. Research methodology

The core of the research methodology is the qualitative and quantitative research methods which we used to meet this goal. In this article, we have defined the functions of the biosphere reserves and their link to their strategic development in the context of marketing places by methods of deduction and generalization. The objects of this research were two biosphere reserves in the Slovak Republic – Poľana and Tatras These sites were selected as the most suitable, because they use the official brand of UNESCO biosphere reserve for their promotion and realise the targeted promotion activities. Another two Slovak biosphere reserves (Slovak Karst and Eastern Carpathians) are more often presented only as national parks.

International and national documents related to biosphere reserves, as well as websites of UNESCO and researched biosphere reserves were the main source of data about the role of biosphere reserves and using promotion tools. The research was undertaken by using in-depth interviews with the managers of the selected biosphere reserves and with the chairwoman of the Slovak Biosphere Committee. Through these interviews we identified the key issues and suggested possible solutions. Subsequently,

we carried out research in order to acquire information from both the public and local experts on the issue of promotion and awareness of biosphere reserves.

Based on the literature review and our own research, we formulated the following hypotheses:

H_0: Promotion can influence the sustainable development of biosphere reserves.

To verify H_0, based on theoretical assumptions that are related to KOTLER (1993), KARAVARATZIS (2007), ESHUIS ET AL. (2014), MOILANEN & RAINISTO (2009), VAŇOVÁ (2021), ROJÍKOVÁ (2021) we established H_1 and H_2 as follow:

H_1: The quality of promotion affects awareness of the biosphere reserve.

Hypothesis 1 is based on theoretical assumptions that are related to KARAVARATZIS (2007), ESHUIS ET AL. (2014), PARKER ET AL. (2015), MOILANEN & RAINISTO (2009), GOVERS & GO (2009), VUIGNIER (2016), HEREZNIAK (2017), VAŇOVÁ ET AL. (2017), BORSEKOVÁ ET AL. (2017), KOTLER (2021), LEE (2022), ROJÍKOVÁ (2022). They argue that one of the functions of promotion is building awareness of the place.

H_2: Biosphere reserves, which are the part of a national park are better known compared with a biosphere reserve, which is a part of a protected landscape area.

Regarding hypothesis 2, our assumption is that the Tatras as a biosphere reserve is better known thanks to the location of the High Tatras, the most famous national park and tourist destination in Slovakia. The status of national park increases also an awareness about the biosphere reserve and their importance as a UNESCO natural heritage site based on the utilization of promotion tools.

The preliminary research took the form of an observation in terms of aspects of biosphere reserves in the field; collecting information that is available on the Internet and through interviews with management. This research focused on the use of promotion tools in general and in selected biosphere reserves. With regard to this promotion research, we empirically analysed the use of 12 modern and traditional forms of promotion, and these were: websites, social media, blogs, chats, discussion forums, graphic (banner) Internet advertising, web applications, mobile applications, personal communications, events, promotional materials, and media. Indicators related to the use of modern forms of promotion were assigned to biosphere reserves dichotomously (1 – use, 0 – no use). The next stage of the research was carried out in November and December 2022 through a survey in order to find out whether the local population and random visitors to the biosphere reserves were aware of the fact they had been in the territory of a biosphere reserve and whether they had some knowledge of its concept. In the case of the Poľana Biosphere Reserve, the questionnaire survey took place in November 2022 with 113 respondents and in the case of the Tatras biosphere reserve, the questionnaire survey took place in December 2022 with 73 respondents. A total of 8 questions were evaluated as part of the questionnaire for the Poľana Biosphere Reserve. The questionnaire was aimed at determining the awareness of the residents of the territory about the Poľana Biosphere Reserve and about the forms of promotion that residents use when drawing information about the Poľana Biosphere Reserve. The relationship between the answers has been verified by using the correlation matrix with the Pearson's correlation coefficient at the 5% significance level of significance ($\alpha = 0.05$). In case of the Tatras Biosphere Reserve we were able to evaluate the responses for 1 question aimed at finding out whether the inhabitants and visitors of the Tatras know that they are/live in the territory of the biosphere reserve. Due to the results from this question, the other question results were irrelevant.

4. Research results and discussion

The issue of biosphere reserves in the Slovak Republic has been gradually developed since 1977. The Slovak Committee for the Human and Biosphere Program, an unofficial body for the issue of biosphere reserve, was established in 1993 as an advisory body to the Minister of Foreign Affairs of the Slovak Republic and the responsible body for the implementation of the UNESCO MAB Program in the Slovak Republic. It is an organizational part of the Slovak Commission for UNESCO under the Ministry of Foreign and European Affairs of the Slovak Republic.

In Slovakia, the Slovak Karst (1977), Poľana (1990), Eastern Carpathians (1992), and the Tatras (1992) are recognized as biosphere reserves. The Tatras Biosphere Reserve and the Eastern Carpathians Biosphere Reserve are cross-border biosphere reserves. According to Slovak law, there is a very poor definition of biosphere reserve. It is stated in § 28b par. 1 of Act no. 543/2002 Coll. on nature and landscape protection as follows "biosphere reserves are areas of international importance". Simultaneously, all are large protected areas (three are national parks and one is a protected landscape area). In our research, we focused on two biosphere reserves,

namely the Tatras Biosphere Reserve, which is a part of the national park, and the Poľana Biosphere Reserve, which is a part of a protected landscape area.

4.1. Object of the research

The Tatras Biosphere Reserve is located in the northern part of the Slovak Republic. This territory includes two national parks and their protection zones located on both sides of the Slovak-Polish border. The Slovak part consists of the Tatras National Park (TANAP), and the Polish side consists of the Tatrzański Park Narodowy (TPN). The uniqueness of the natural conditions of this biosphere reserve lies primarily in their alpine character. This is reflected in the significant differentiation of the country, which depends mainly on its orographic arrangement, size, extent, and height of the mountain range. The biosphere reserve consists of the Eastern Tatras, Western Tatras, Podtatranská kotlina, and Podtatranská brázda. After adjusting the borders as part of the periodic evaluation in 2017, the Tatras Biosphere Reserve now occupies an area of 101,819.05 ha. The diversity of the area is enhanced by the preserved features of the traditional folk culture of this region, which differ significantly from the neighbouring regions in Poland and Slovakia. The traditional uses of the biosphere reserve are related to agriculture and forestry, spas, sports, and recreational activities. Since the beginning of historical development, agriculture has been associated with cattle and sheep farming. Tourism began to emerge in 1871. The mountain landscape with tourist centres is a transition between cultivated and natural parts of the region, including many types of forests, with great biodiversity.

The Poľana Biosphere Reserve is the highest volcanic mountain range in Slovakia. It is a part of the protected landscape area Poľana. The whole area is a part of the Carpathian arch. Due to its extension to the south and an altitude range of almost 1000 m, thermophilic as well as mountain species of plants and animals occur in a relatively small area. The unique geological and geomorphological character of this area is the result of volcanic activity in the period between 13–15 million years ago. Forests cover about 85% of the area. Poľana is typical of large beech forests, fir and beech, and hilly forest communities. In the past, there were deforested areas, however, today these areas are represented by meadows and pastures with the occurrence of valuable peat bogs and waterlogged meadows. Mountain and subalpine grass species are typical. Rock formations increase the overall biodiversity of the area. Horses and traditional agricultural tools are used in the area for agricultural purposes. The unique landscape structure is highlighted by traditional wooden houses, barns, potato cellars, painted wooden crosses, and other folk art. The current area of the Poľana Biosphere Reserve is 24,158.23 ha (FABRICIUSOVÁ & MIŇOVÁ, 2016).

Both biosphere reserves have plenty of natural and cultural uniqueness. Thus, they should be protected and maintained by the activities of all actors in the territory. However, in the Slovak Republic the biosphere reserve is often perceived as another category of a protected area with its restrictions or bans, which is a consequence of ignorance in terms of the key mission and importance of biosphere reserves. In fact, biosphere reserves are not typically protected areas, they are model areas where the protection of natural values is supported by sustainable human land use. At the same time, such an approach should guarantee compensation from the state for land owners, and users, who preserve cultural traditions and natural values in these territories. However, this is not adequately reflected in the Slovak Republic.

The Slovak biosphere reserves lack key development documents, action plans, promotion strategies, as well as the methodology for preparing such documents. In comparison with some foreign countries, guidelines for management and operation of biosphere reserves, that would take the specific conditions of Slovakia into account, are not available. The lack of a strategic approach related to the development of biosphere reserves is a result of insufficient analyses, especially in terms of socio-economic, socio-demographic, and innovation potential. This issue also results from the unavailability of data at the lower level of territorial administration. Biosphere reserves usually cover a few districts as well as some parts of districts, and that is why specific economic and social data are not available in the Slovak Republic, which complicates analyses and planning. The basic data on the researched biosphere data is presented Table 1.

Table 1. Characteristics of the studied biosphere reserves (Source: materials of Protected landscape area Pol'ana and High Tatras National Park)

Biosphere reserve	Pol'ana	Tatras
Year founded	1990	1992
Area	24 158.23 ha	101, 819,05 ha (Slovak part)
Type of the biosphere reserve	Slovak	Cross bordered with Poland
Type of protected territories covering biosphere reserves	Protected landscape area	National park
Number of cadastral territories	13	64
Key development areas	Tourism, agriculture, food industry	Tourism and recreation

4.2. Evaluation of the promotion realised by the biosphere reserves

Currently, the biosphere reserves are promoted through the website (http://www.sopsr.sk/web/?cl=1600), videos, and leaflets, as well as events. However, these forms of promotion have insufficient impact on the national awareness of biosphere reserves and their specificities. They miss the broader offer of educational activities (e.g. seminar, workshops, lectures, competition, games, videos). the Pol'ana Biosphere Reserve is the only one that possesses such a promotional strategy. The Pol'ana Biosphere Reserve is an example of the best practices that are related to the management of marketing in a biosphere reserve. A coordination board is a key organisational body of this biosphere reserve. It is formalised as a civic association of key stakeholders in the territory. Apparently, this is a platform through which the stakeholders are engaged in the development of the territory. The Tatras Biosphere Reserve is typical of a biosphere reserve with a lack of cooperation and partnership. It lacks a coordination, or advisory, body for the biosphere reserve, and all activities are realised by the management of Tatras National Park Administration, a state run organisation.

Promotional tools used in biosphere reserves. In the first stage we carried out secondary research which focused on identifying the promotion activities used in the two biosphere reserves (Table 2). We focused on 12 modern as well as traditional forms of promotion, namely the existence of a website, blogs, chats, discussion forums, digital billboards, web applications, mobile applications, social networks, events, printed materials, personal communication, and the use of different media.

Table 2. Use of promotional tools in the Pol'ana and Tatras Biosphere Reserves (Source: own research)

Biosphere reserve	Pol'ana			Tatras		
Promotion tool	yes/no 1/0	Awareness	Participation	yes/no 1/0	Awareness	Participation
Website	1	✓	✓	1	✓	-
Blogs	0	-	-	0	-	-
Chats	1	-	✓	0	-	-
Discussion forum	0	-	-	0	-	-
Graphic (banner) Internet advertising	0	-	-	0	-	-
Events (social, exhibitions, competitions)	1	✓	-	0	-	-
Web app	0	-	-	0	-	-
Mobil app	0	-	-	0	-	-
Social network	1	✓	-	0	-	-
Personal communication	1	✓	✓	0	-	-
Promotional materials (leaflets, posters, brochures)	1	✓	-	0	-	-
Media (newspapers, radio, television)	1	✓	-	0	-	-
Total	7	6	4	1	1	0

As shown in Table 2, we found that the Pol'ana Biosphere Reserve uses 7 (58.33%) tools out of 12 modern forms of promotion. Out of that number, up to 6 promotion tools are used by the management of the biosphere reserve in order to build awareness of the existence and functions of the biosphere reserve, and 3 tools are used during participatory processes. The Tatras Biosphere Reserve uses only one of these promotional tools with a focus on building awareness.

The relatively high number of promotional tools used by the management of the Pol'ana Biosphere Reserve indicates that the management approach is more strategic and marketing oriented.

Based on the interviews, the Pol'ana Biosphere Reserve operates as a laboratory of sustainable life, which is thanks to its unique nature, healthy environment, and traditions with participatory governance. Sufficient knowledge of management and marketing is acquired through cooperation with professionals in the field of environmental protection, economic and social development which is reflected in its promotional activities. These are aimed at various segments such as landowners, land users, entrepreneurs, residents, NGOs, schools, forest plants, scientific institutions, hunting and fishing associations, the church, state administration, local government, cultural centres and institutions, agricultural enterprises, farmers, or tourists (Table 3).

Table 3. Target groups of promotion in Pol'ana Biosphere Reserve (Source: own research)

Aims of Sevilla strategy / Segments	Protection of natural and cultural diversity	Model of landscape management and sustainable development	Research, monitoring	Education, awareness, training	Implementation of the biosphere reserve concept
Inhabitants	✓	-	-	✓	✓
Private business	✓	-	-	✓	✓
State firms	-	-	-	-	-
Schools	✓	-	✓	✓	✓
Professionals	-	✓	✓	✓	✓
NGO	✓	-	✓	✓	-
Press	-	-	-	✓	✓
State administration	✓	✓	-	-	✓
Self-government	✓	✓	-	-	✓
Cultural institutions	-	-	-	✓	✓
Associations (hunter, fishing)	✓	-	-	-	-
Tourists	✓	-	-	✓	-
Church	✓	-	-	-	-

In terms of promotion, the Pol'ana Biosphere Reserve effectively uses the UNESCO brand, which makes it unique. Apparently, this activity is not used in other biosphere reserves in Slovakia. Moreover, it has also its own brand, which is a result of the participation of stakeholders from the territory. It has its own website that informs, and promotes its importance, and activities of this reserve. It also supports local products, and is building public relations with all relevant stakeholders, press, and others. The Pol'ana Biosphere Reserve website also serves as a platform for registration onto environmental education programs that are held at this reserve. Thanks to the active cooperation of the biosphere reserve management and the municipalities located in this territory, information related to its operation and activities is shared on these websites, social networks, with information and official boards of municipalities as well. A weakness is that the websites of other relevant stakeholders associated with the Pol'ana Biosphere reserve are not liked to its official website. With regard to social networks, the Facebook platform is primarily used. The profile of Pol'ana Biosphere Reserve has more than 220 followers and more than 4,800 'friends', including individuals, local and regional entrepreneurs, public administration institutions, as well as non-profit organizations. In addition to providing information and promoting this biosphere reserve, Facebook is also used for communication with stakeholders via chat. Instagram is occasionally used. Although the Pol'ana reserve does not have an account on the YouTube platform, there are a total of 8 videos on the platform that promote this area through the State Nature Conservancy of the Slovak Republic. In addition to this, the Pol'ana reserve is indirectly presented in more than 20

other videos by related stakeholders. A recording of the coordination board of the Poľana Biosphere Reserve meeting is also published on the YouTube channel by the Municipal Cultural Centre of Hriňová.

Cultural, sports, and social events aimed at various target segments are held by the Poľana Biosphere Reserve throughout the year. In addition to raising awareness of the biosphere reserve, these events also encourage participants and build its identity. Other promotional and educational activities include competitions such as art contests, photo contests, quizzes, graphic designs and video competitions, or environmental contests. Furthermore, in cooperation with museums and galleries, exhibitions of work are also held here. The Poľana Biosphere Reserve management puts an emphasis on education through informal educational activities for various groups of residents and visitors. In cooperation with the municipalities in this territory, the management of the biosphere reserve is involved with the preparation of promotional materials, information boards in villages, on tourist and cycling routes, etc. Awareness of the Poľana Biosphere reserve is also built through press releases in local and regional media. In addition to this, the management of the biosphere reserve uses these press releases and reports in the national media to build awareness among external audiences. There have been a total of nine press releases through The News Agency of the Slovak Republic. Personal communication plays an important role as well, since trust and relations with stakeholders and residents are built and developed. Personal communication is carried out through consultations, stakeholder/public meetings, workshops, etc. However, blogs, discussion forums, digital billboards, web sites and mobile applications are not used by the Poľana Biosphere Reserve management. There is a great potential for these forms in terms of the promotion ofn the Poľana Biosphere Reserve. Great potential can be identified in the use of web applications possibly used as platforms for participatory processes in the creation of strategies and decisions. Mobile applications should also be used as an information centre, both for internal and external audiences.

Through 113 interviewed respondents to the questionnaire survey undertaken in the Poľana Biosphere Reserve during the November 2022 to get information about the Poľana Biosphere Reserve we found that they utilise websites (39%), media (19%), social networks (17%), and personal communication (15%) to advertise their brand. In addition to this, they provide information through other sources (6%) and events (4%) as well (Table 4)

Table 4. Sources of information about the Poľana Biosphere Reserve (Source: own research)

Sources of information about the Poľana Biosphere Reserve	Share of respondents [%]
Website (Biosphere Reserve, municipalities)	39
Media (newspapers, radio, television)	19
Social networks (BR, municipalities)	17
Personal communication (with BR employees, representatives of municipalities, acquaintances)	15
Other	6
Events	4

The Tatras Biosphere Reserve makes use of only one of these forms of promotion, which is a website. The website provides only general information about its territory. This is reflected not just in the rate of its awareness, but also in its operation. Since this is the only form of promotion, it represents the only source of information related to this reserve. Further information is provided through two promotional videos about the Tatras Mountains on YouTube, which is an initiative of the State Nature Conservancy of the Slovak Republic. The public is the target audience for both forms of promotion.

Awareness of the biosphere reserves. The second stage of our research included a questionnaire survey with the participation of interviewers who randomly selected respondents in the territory of both biosphere reserves to find out whether the respondents were aware of the fact that they are in the territory of the biosphere reserve. Out of a total number of 113 respondents in the territory of the Poľana Biosphere Reserve, up to 94 (83.18%) were aware of its existence. However, only 5 (6.84%) respondents out of a total of 73 respondents were aware of the existence of the Tatras biosphere reserve.

In the Poľana Biosphere Reserve 87 (77%) respondents expressed a positive approach to their life in this reserve, 25 (22.12%) respondents could not evaluate whether it is beneficial, one respondent had a negative approach. Due to the fact that awareness of the Tatras biosphere reserve is at a very low level, this kind of evaluation was not applicable.

We assume that in this case there is a low awareness of the biosphere reserve, it is difficult to expect changes in the behaviour of its residents, entrepreneurs, visitors, and responsible public administrative bodies. Figure 1 shows detailed

information related to the degree of awareness of respondents in the Pol'ana and Tatras Biosphere Reserves. Correlation analysis also confirmed the perfect dependence between the use of promotion tools and the degree of awareness of the Pol'ana Biosphere Reserve. The data file contained 113 measurements (responses). Dependence between individual variables was verified through Pearson's correlation coefficient and correlation matrix at the significance level of p = 0.05 (Table 5)..

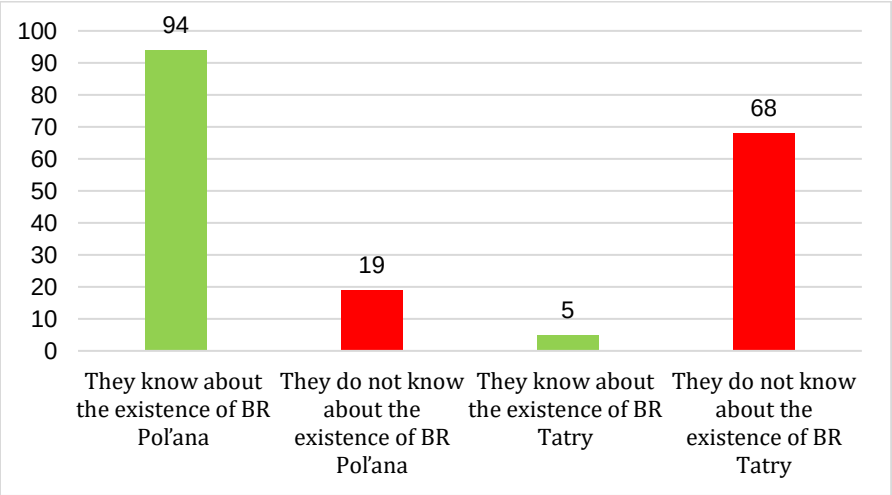


Fig. 1. Awareness of citizens about biosphere reserves in % (Source: own research)

Table 5. Pearson correlation test results on various aspects of participation and promotion in the Pol'ana Biosphere Reserve

	Do you know that you live in the Biosphere Reserve Pol'ana?	The existence of Biosphere Reserve Pol'ana brings benefits for life of local people	Do you know that the Pol'ana Biosphere Reserve is managed by the Coordinating Board, which is composed of important stakeholders from the	Do you know the statutes and goals of the Coordinating Board of BR Pol'ana?	Would you like to become a member of the Coordinating Board of BR Pol'ana?	Use of promotion	Do you know that the Pol'ana Biosphere Reserve is a UNESCO site?
Do you know that you live in Pol'ana Biosphere Reserve?	1	-	-	-	-	-	-
The existence of Pol'ana Biosphere Reserve brings benefits for life of local people	0,17883	1	-	-	-	-	-
Do you know that Pol'ana Biosphere Reserve is managed by the Coordinating Board, which is composed of important stakeholders from the region?	0,09521	-0,0015244	1	-	-	-	-
Do you know the statutes and goals of the Coordinating Board of Pol'ana BR?	0,01571	0,07656781	0,605242	1	-	-	-
Would you like to become a member of the Coordinating Board of Pol'ana BR?	0,0807	0,14652074	0,364979	0,426958	1	-	-
Use of promotion	1	0,17883348	0,095214	0,015706	0,080705	1	-
Do you know that the Pol'ana Biosphere Reserve is a UNESCO site?	0,16085	-0,0258646	0,176357	0,224577	0,153862	0,160855	1

Discussion. Our hypothesis 1 *The quality of promotion affects awareness of the biosphere reserve* was confirmed.

Correlation analysis confirmed that the higher the residents' awareness of the management of the biosphere reserve by the Coordinating Council of Poľana biosphere reserve, which is composed of important interested groups from the region, the more residents know its goals and statutes. The more residents know the management principles of the biosphere reserve, the more they want to be part of it. Promotion thus plays an important role not only from the point of view of building awareness of the biosphere reserve itself, but also from the point of view of engagement and participation of residents in its management. The research results also supported the statements of the Technical guidelines of UNESCO (2021) on the benefits of promotional activities, that indirectly contribute to the generation of incomes for local stakeholders.

The research findings disproved hypothesis 2 which was that *the biosphere reserve that is a part of the national park is better known compared to the reserve which is a part of a protected area*. The Tatras biosphere reserve is both part of international territory and the Tatras National Park. This fact may have obscured the existence of the biosphere reserve, since the majority of the respondents were not aware of the fact that it is also located on biosphere reserve territory protected by UNESCO. Based on these results, in case of the Tatras, promotion should focus on both aspects, since this territory is a famous national park and a tourist destination in Slovakia and the UNESCO dimension in terms of its promotion activities can contribute to increase the value of the territory.

With the regard to hypotheses 1 and 2, we confirm the null hypothesis H0 that states that promotion can influence the sustainable development of a biosphere reserve. Here are the reasons for our statements:

a) In the of case residents, businessmen and visitors they are not aware of the importance and functions of a biosphere reserve, thus they do not have sufficient motivation to behave responsibly. In addition to this, without their awareness, in terms of possibilities that are provided by the reserve, they may perceive some actions of environmentalists and public administration bodies as restrictive and unpopular.

b) Similarly, if children do not have a positive awareness of the importance of nature and the quality of the environment for an individual's life and the need for its protection, activities related to nature protection and the environment may be less effective in the long term.

c) On the other hand, in the case of a biosphere reserve if it communicates with different target groups in its territory with regard to its sustainable development, then public pressure can positively affect the public administration bodies that are responsible for this issue, whether in terms of creating legislation or in financial support.

d) Furthermore, thanks to accurate promotion, entrepreneurs and residents can better evaluate the impact of their activities on the sustainability of a biosphere reserve, which may potentially reduce the number of conflict situations that arise between nature conservationists/environmentalists and entrepreneurs or residents. This was also confirmed through the survey results in the Poľana biosphere reserve.

e) Promotion can thus contribute to the development of other tools for the marketing mix, in this case, to the development of cooperation, the creation of partnerships which lead to citizen participation, and thus is the first step towards intelligent governance (VITALIŠOVÁ ET AL., 2023).

f) Well-directed promotion can influence the creation of new products (e.g., through labelling of local products/branding). In addition to this, when the amount of visitors to the biosphere reserve increases, then entrance fees or over-night stay fees could be charged, which can provide an income for the budgets of local governments. Good examples of the implementation of this are published by UNESCO (2022b), such as RED ESPANOLA DE RESERVAS DE LA BIOSFERA (2022).

In relation to the general public, we recommend paying more attention to the use of social networks, especially Facebook, Instagram, and Tic Toc, because as our research (ROJÍKOVÁ ET AL., 2021) has shown that they have a better chance to reach a large target group. Well-set out communication and subsequent cooperation among stakeholders can result in further marketing and professional activities.

5. Conclusions

The development of biosphere reserves, as part of Agenda 2030, is a current issue at international level, as well as in the Slovak Republic in terms of the implementation of UNESCO natural heritage policy. However, neither the state officials nor the public are aware of the need to preserve biodiversity in its

territories and systemic support of this specific type of territory. Promotion as a part of marketing these places could be understood as a potentially new, progressive approach to the preservation of bio-diversity. In this article, we presented a brief analysis of the current state of promotion of selected Slovak-biosphere reserves. In Slovakia, biosphere reserves are underdeveloped. For further development, we identify a lack of strategic orientation and insufficient personal capacity. e, a funding scheme does not exist that is specially oriented towards biosphere reserves. A part of the budget of the Slovak Committee for the Human and Biosphere Program is dedicated directly to the biosphere reserves, especially to promotional activities or study visits to foreign biosphere reserves. However, the sum of funds is so small, that the real benefits are questionable.

In recent years, there was a strong initiative from the communities in biosphere reserves to change the situation. The first step should be an open discussion between the relevant representatives at national level (e.g., the Ministry of Foreign and European Affairs of the Slovak Republic, and the Ministry of Environment of the Slovak Republic) about the strategic orientation of the biosphere reserves and their development. This should be supported by designing a suitable system of management as well as providing funds, within a respective legal framework. However, if there are to be changes in the perception of biosphere reserves, it is necessary to bring this issue to the attention of the public. This is also the role of promotion, as confirmed by the results of our research.

Our results have proven that promotion influences the sustainable development of biosphere reserves (H0), as the scope and quality of promotion affects awareness of the biosphere reserve (H1). The fact that biosphere reserves can be part of national parks does not provide a "competitive advantage" to increase awareness of a biosphere reserve (H2), as the opportunity to manage the territory, in the sense of cooperation and partnership towards achieving sustainable development of the territory and symbiosis of human life with nature is lost. Concerning this, biosphere reserves should be perceived as a concept of territory management and marketing. In case of inadequate management and marketing of biosphere reserves, it is not possible to use even the UNESCO brands a competitive advantage of the territory.

Our research results have their limitations, especially in sense of the questionnaire survey (low number of respondents, relatively short time period of data collection). However, it should be understood as a pilot study whose tested methodology can be improved in the next stage of research and can be replicated in the rest of Slovak biosphere reserves as well as for international comparative research, e. g. in the Polish part of the Tatras Biosphere Reserve.

Even the development of Slovak biosphere reserves fights with challenges, the initiatives from bottom up should be a first step towards progress in the desired way. It is important to be open-minded as well as to take inspiration from other practices.

Acknowledgements:

This work was financed by the project APVV-20-0108 Implementation of Agenda 2030 through biosphere reserves.

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