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## EVALUATING THE IMPORTANCE OF CULTURAL HERITAGE IN A BIOSPHERE RESERVE: THE CASE OF CROATS (ŠOKCI) LOCAL COMMUNITY IN THE MURA-DRAVA-DANUBE BIOSPHERE RESERVE (VOJVODINA, SERBIA)

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### Abstract

*Biosphere reserves are protected areas recognized internationally as part of UNESCO's Man and the Biosphere Programme. Their purpose is to test interdisciplinary approaches to managing interactions between ecological and social systems. Populated areas and communities of local inhabitants, with their customs, culture, and heritage, are integral parts of numerous biosphere reserves worldwide. Several initiatives and documents encourage the promotion of cultural diversity in biosphere reserves. The main objective of this study is to offer a fresh perspective on the significance of the cultural heritage of the Croats (Šokci) minority community located in the Serbian part of the cross-border Mura-Drava-Danube (MDD) Biosphere Reserve.*

*The study makes use of the Analytic Hierarchy Process (AHP) technique to achieve this goal. Seven experts, who are considered as being connoisseurs of the cultural heritage of the Croats (Šokci) and the Mura-Drava-Danube Biosphere Reserve, were interviewed as part of this study. The results indicate that factors such as sense of belonging and pride of the local community are crucial for the preservation and management of cultural values in the Biosphere Reserve. These aspects can also play a practical role in tourism development, which is recognized as one of the most significant activities in biosphere reserves across the globe.*

**Keywords:** *biosphere reserve, Croats (Šokci), cultural heritage, identity, local community*

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## 1. INTRODUCTION

Society, culture, and nature exhibit numerous interactions in protected areas (Primack, 1993; Prato, Fagre, 2005; Dudley, 2008). However, the concepts of culture and nature are sometimes used as grounds for clear separation in nature conservation, as protected areas are believed to be fundamentally separate from people, who can only be visitors here (Sarkki et al., 2015). UNESCO first developed the concept of biosphere reserves in the 1970s, placing special emphasis on the importance of local populations in nature conservation. Socio-cultural traditions, including heritage sites, as well as sacred places, are used as factors in the internal organization of biosphere reserves and the formation of their zones (UNESCO, 2021).

Biosphere reserves are an integral part of the intergovernmental and scientific UNESCO Man and the Biosphere (MAB) Programme (UNESCO, 1973), which aims to establish a scientific basis for improving the relationship between humans and the environment. The MAB program is based on the integration of knowledge from natural and social sciences to improve the quality of human life and protect nature, as well as promote innovative approaches to sustainable development (UNESCO, 2016). The status of biosphere reserve is focused on balancing nature conservation and sustainable development with the active participation of local communities. Their goal is to equally protect natural and cultural diversity, while also promoting the economic development that fosters cultural diversity among the local population (UNESCO, 2021). The historical and cultural values of the landscapes within biosphere reserves can be of great importance and influence the level of attractiveness of the reserves, with the perspectives of local communities and officials being crucial in this regard (Eliasson et al., 2022). The customs and culture of the local population are much more than just a momentary observation, as the disappearance of traditions and customary law, as well as changes in ways of life, can lead to significant disruptions (Reed, 2019).

One of the most pressing issues regarding biosphere reserves concerns their sustainable development from various perspectives (Kušová et al., 2008; Barraclough, 2023; Stojanović et al., 2023). To truly promote sustainable development, an effective biosphere reserve must involve equal engagement of natural and social sciences, as well as local communities (UNESCO, 1995). The social and cultural aspects play a crucial role, at least theoretically, in the management of biosphere reserves, particularly with regard to safeguarding socio-ecological systems (Coetzer et al., 2013). However, there is a gap in terms of local community involvement in the management of these reserves (Price, 1996). Encouraging the participation of local communities in the managing of heritage sites can promote sustainable development. While this value may be subjective and not always directly measurable, that does not mean that it is not important for people's lives and their well-being (UNESCO, 2015a).

The primary aim of this study is to apply the Analytic Hierarchy Process (AHP) to determine the importance and value of cultural heritage in general terms, but also in the context of a biosphere reserve, as an important UNESCO international designation. Since biosphere reserves are based on the sustainable use of the natural and cultural potentials of the areas they occupy, their goal is to provide well-being for people and create an environment conducive to comfortable living. A better understanding of the place and role of cultural heritage in biosphere reserves should contribute to people's well-being through, for example, heritage presentation and the development of sustainable tourism based on local communities and their heritage. As the Mura-Drava-Danube (MDD) Biosphere Reserve spans across the territories of five states, understanding the cultural heritage and developing models for its sustainable use in one of its parts should also influence overall sustainable development trends in the entire cross-border MDD Biosphere Reserve area. Finally, defining the role of cultural heritage of the Croats (Šokci) minority community in the MDD Biosphere Reserve should support and encourage the survival of their culture and life here.

## 2. LITERATURE REVIEW

Numerous stakeholders are involved with biosphere reserves and have a stake in their functioning. They are rights holders at all levels of society and may have different levels of affiliation with the Man and the Biosphere (MAB) Programme under which the concept of biosphere reserves was developed. Communication among them is essential (Schultz et al., 2011; Coetzer et al., 2013; Tucakov, 2018b). Although it is not possible to list every single relevant stakeholder group in one place, some of the most important ones include landowners, land users, indigenous people, local communities, civil society organizations, biosphere reserve managers, government authorities at all levels, private companies, and intergovernmental and international organizations (UNESCO, 2021). The local community plays a crucial role in biosphere reserves, which are based on the principle that the local community must not be excluded. In this context, the concepts of sustainable development and the local community are of utmost importance for

biosphere reserves, especially when considering that the local population promotes the concept of sustainable development in biosphere reserves (Stoll-Kleemann et al., 2010; Habibabadi et al., 2013; UNESCO, 2021).

Local communities residing in biosphere reserves around the world have been creating cultural diversity by adapting their behavior, culture, and social structure to changing environmental conditions over the course of history (Kruse-Graumann, 2005). Cultural values play a crucial role in the biosphere reserve landscape because they primarily involve the interaction between humans and the environment, especially in its transition area (Mondino and Beery, 2018; Eliasson et al., 2022; Darvishmotevali et al., 2023). However, there is a problem in the practical management of biosphere reserves as the focus is generally on economics and ecology, and not enough emphasis on social and cultural aspects in sustainable development (Eliasson et al., 2022).

The social aspect of biosphere reserves is closely related to the cultural heritage of local communities. Heritage is often studied in relation to ecosystem services, as it depends on landscapes and cultural landscapes (Eliasson et al., 2018). Today, cultural heritage is considered the most important foundation for creating and maintaining a sense of identity and belonging within a community (Di Pietro et al., 2017). Heritage, along with socio-cultural traditions and sacred sites, is also a key factor in implementing the concept of zoning biosphere reserves (core area, buffer zone, transition area) (UNESCO, 2021). One common way of evaluating the heritage of biosphere reserves is by analyzing its contribution to tourism development. Discussions on this topic always include assessments of how this activity helps protect cultural heritage (Abunier et al., 2024).

### 3. OVERVIEW OF THE CASE STUDY AREA

The Mura-Drava-Danube Biosphere Reserve (MDD BR) was designated by UNESCO in 2021 as the first transboundary biosphere reserve spanning five countries: Austria, Slovenia, Hungary, Croatia, and Serbia and covering an area of 931,820 ha (Figure 1). This area encompasses the largest and best-preserved river system in Central Europe (<https://en.unesco.org/biosphere>). In Serbia, the Bačko Podunavlje Biosphere Reserve (BP BR) which is within the same territory covered by the MDD BR, was designated in 2017, and covers an area of 176,636 ha (Tucakov, 2018a). This region is known for its pristine intact nature in the floodplains along the Danube River. The preservation and richness of biodiversity are mostly distinctive in the vast areas within four protected areas: Gornje Podunavlje, Junaković, Karadorđevo and Tikvara, which are protected under national legislation of the Republic of Serbia (Stojanović et al., 2023).

A community is a group of people who share a common culture, values, identity or territory. In social sciences, the concept of community is often related with rural societies that are still not affected by urbanization (Gregory, 2009). In nature protection, the local community is of particular importance and its exclusion from the management of protected areas can lead to numerous conflicts (von Ruschkowski, 2009; De Pourcq et al., 2015). In analyses of cultural ecosystem services, the importance of the local com-

munity in the development of tourism in protected areas is also recognized (Sobhani et al., 2022; Stojanović et al., 2021b). In respect to the main topic of this paper, the Croats (Šokci) community is understood as an ethnic and minority group that lives in the area of the Serbian part of the MDD BR and shares that area with other people.



Figure 1. Location of Mura-Drava-Danube Biosphere Reserve

Author: Vladimir Marković

The Serbian part of the MDD BR is also characterized by its significant cultural diversity. Around 140,000 people live in this area in 26 settlements, of which 22 are rural and four are urban. The ethnic structure of the population is highly diverse, with the most numerous ethnic groups being Serbs, Croats, and Hungarians (Stojanović, 2018). According to the registry of the competent Institute for the Protection of Cultural Monuments, there are 47 cultural monuments, three spatial cultural-historical units, and three archaeological sites in and around the settlements (Provincial Institute for the Protection of Cultural Monuments, 2023). This cultural heritage represents significant evidence of history and culture in the Serbian part of the MDD BR, which can be traced back to the Neolithic period.

Croats (Šokci) as a nation and minority community are significantly represented in the settlements: Bački Breg, Bački Monoštor, Sonta, Bač, Vajska, Bođani, and Plavna (Sekulić, 1991; Skenderović, 2017). They migrated to these areas primarily in the 17th century and brought with them, and subsequently further developed here, a specific culture manifested in the construction and arrangement of houses, traditional costumes, games, cuisine, and the specific speech of the Ikavian dialect (Sekulić, 1991). The material heritage, such as the Franciscan Monastery in Bač, which is protected as a monument of exceptional importance (RZZSK, 1998), testifies to the historical presence of Croats (Šokci) in the territory of the present MDD BR. All seven Croat (Šokci) settlements in Bačka are now encompassed within the borders of the Serbian part of the MDD BR, which significantly changes the community's position concerning the initiatives of UNESCO's Man and the Biosphere (MAB) Programme, opening up a new path for the community in sustainable development policies.

The cultural heritage of Croats (Šokci) is rich, substantial, and layered. In addition to the monastery in Bač, as perhaps the most important religious object in the local community's heritage with its treasured library – Biblioteka Slavica (Croatica) (RZZSK, 1998), this community is also associated with seven parish churches built in each of the inhabited settlements. The churches contain valuable paintings on altars and other parts of the church interiors, which are the legacy of more well-known painters such as Franciscus Falkoner, Mathias Hanisch, József Pesky (SMWV, 1986). In the villages of Bački Breg, Bački Monoštor, Sonta, Bač, and Vajska, ethno-houses have been arranged as amateur museum collections preserving a large number of artefacts from the daily life of the Croat (Šokci) community. Most of the items, such as traditional furniture, tools, fabrics, and clothing, date back to the 19th and first half of the 20th century. Their attractiveness forms the basis for development of tourism offerings (Stojanović and Besermenji, 2019). Movable heritage such as folk costumes and other textile items are present in many private collections, occasionally exhibited at local events. The Autonomous Province of Vojvodina, as a region where Croats (Šokci) live, has a very rich intangible heritage. It is also important to note that Croats (Šokci) make a significant contribution to the wealth of the aforementioned intangible heritage through their traditional songs, dances, speech, and beliefs (Ćuković and Milenković, 2020).

Cultural heritage within the territory of the Republic of Serbia is regulated by the Law on Cultural Heritage in which such heritage is defined as a set of resources, material and immaterial, inherited from the past, recognized as a reflection and expression of continuously evolving values, beliefs, knowledge and traditions, created by the interaction of humans and space over time (Official Gazette of the Republic of Serbia, 2021). According to this Law, cultural heritage is protected on the basis of preservation and protection measures, in which various entities such as state bodies, scientific-educational and research institutions, tourist organizations and other associations have their role. The main objectives of cultural heritage protection are also related to the management of cultural heritage resources.

#### 4. METHODOLOGY

With complex decisions involving numerous criteria and alternatives, the decision-making process itself becomes multifaceted, consisting of mutually connected and dependent factors, which influence the final decision (Jandrić and Srđević, 2000). The Analytic Hierarchy Process (AHP) is a systematic approach developed by Thomas Saaty (1980) to provide solutions to complex problems. It employs hierarchical structures through developing priorities for different alternatives determined by the decision makers (Brushan and Rai, 2004). The AHP approach is used to construct an evaluation model using weighted criteria in order to compare alternatives. It integrates different measures into a single overall score for ranking decision alternatives (Hsu et al., 2009). In order to decompose complex problems, AHP makes a multilevel hierarchical structure (Harker and Vargas, 1987). The AHP model systematically evaluates alternatives, assessing their influence on the ultimate decision-making objective, and its structured approach aids decision-makers in effectively selecting the most favorable option among the alternatives (Saaty, 1980). Given a pairwise comparison, the analysis involves three tasks: (1) developing a comparison matrix at each level of the hierarchy starting from the second level and working down; (2) computing the relative weights for each element of the hierarchy; and (3) estimating the consistency ratio (CR) to check the consistency of the judgment (Božić et al., 2018). If the CR is less than 0.10, the result is sufficiently accurate and there is no need for adjustments in comparison or for repeating the calculation. If the CR is greater than 0.10, the results should be re-analyzed to determine the reasons for inconsistencies, to remove them by partial repetition of the pairwise comparison, and if repeating the procedure in several steps does not lead to the reduction of the consistency to the tolerable limit of 0.10, all results should be discarded and the entire procedure should be repeated from the beginning (Jandrić and Srđević, 2000). In order to evaluate the indicator weight for Cultural Heritage Value and Biosphere Reserve Context and Management of Cultural Heritage, the authors first developed a three-level hierarchy structured model after which they applied the AHP model.

#### 4.1. Cultural heritage and biosphere reserve index system construction

Using the previous extensive desk and field research (interviews with different experts), this paper summarizes and concludes the Cultural Heritage Value and the Biosphere Reserve Context and Management of Cultural Heritage index system with 24 indicators at two levels: target level, criterion level, sub-criterion level, and indicator level, based on the reference to relevant literature (Table 1). According to the principle of system theory, the criterion level is divided into two parts: Cultural Heritage Value and Biosphere Reserve Context and Management of Cultural Heritage, where the Cultural Heritage Value indicators are the core values of cultural heritage, while the Biosphere Reserve and Management of Cultural Heritage indicators are about managerial aspects and usage of cultural heritage.

Table 1. *Index system construction*

<b>Cultural Heritage Value</b>	
<b>Indicator</b>	<b>Reference</b>
Artistic value	Szmelter, 2013; Božić et al., 2018
Scenic/Aesthetic value	Cros, 2001; Sable and Kling, 2001; Throsby, 2003; Szmelter, 2013; Božić et al., 2018
Historical value	Cros, 2001; Sable and Kling, 2001; Throsby, 2003; Szmelter, 2013
Educational value	Cros, 2001; Szmelter, 2013; Vujičić et al., 2011; Petrović et al., 2013; Višnić et al., 2016
Spiritual value	Sable and Kling, 2001; Throsby, 2003
Social value	Sable and Kling, 2001; Throsby, 2003; Szmelter, 2013
Symbolic value	Sable and Kling, 2001; Throsby, 2003; Park and Stephenson, 2007
Scientific value	Vujičić et al., 2011; Petrović et al., 2013; Višnić et al., 2016
Identity value	Szmelter, 2013
<b>Biosphere Reserve Context and Management of Cultural Heritage</b>	
Civil and political contexts are favorable to management success of cultural heritage	Matar and Anthony, 2022
National authorities and leaders are supportive of cultural heritage	Matar and Anthony, 2022
Local community and civil society are supportive of cultural heritage	Matar and Anthony, 2022



A management plan for cultural heritage is developed and adequate	Matar and Anthony, 2022
Management plan follows participatory approach	Vasiljević et al., 2018
Management plan contributes to inclusive growth	Authors
Protection level	Vujičić et al., 2011; Petrović et al., 2013; Višnić et al., 2016
Has good level of interpretation	Vujičić et al., 2011; Petrović et al., 2013; Višnić et al., 2016
Tourism infrastructure	Vujičić et al., 2011; Petrović et al., 2013; Višnić et al., 2016; Božić et al., 2018
Physical condition	Cros, 2001; Vujičić et al., 2011; Petrović et al., 2013; Višnić et al., 2016
Vulnerability	Vujičić et al., 2011; Petrović et al., 2013; Višnić et al., 2016
Suitable number of visitors	Vujičić et al., 2011; Petrović et al., 2013; Višnić et al., 2016
Biosphere reserve title contributed to cultural heritage development	Authors
Cultural heritage contributes to sense of belonging of local community	Authors
Cultural heritage contributes to sense of pride of local community	Authors

#### 4.2. Data collection and study sample

Interviews with the experts were conducted in person. The planned number of experts was reached and a total of seven experts with different areas of expertise participated in the research. The experts were selected based on their field of expertise and research background (Table 2). The sampling strategy for the AHP method can be based on a suitably chosen purposive sample that is appropriate for generating qualitative data, which is useful for research focusing on a specific issue where a large sample is not necessary, especially in tightly bounded case studies (Lam and Zhao, 1998; Cheng and Li, 2002). A purposive sampling strategy was deemed appropriate for this research because of the limited need for generalization from the case study (Creswell, 2007). Cheng and Li (2002) argue that the AHP method, is in fact made impractical in surveys with a large sample size as “cold-called”, non-expert, respondents may have a greater tendency to provide arbitrary answers, resulting in a very high degree of inconsistency, which invalidates the approach (Wong and Li, 2008).

Table 2. List of experts and their field of expertise

Expert No.	Field of expertise
Expert 1	Art history
Expert 2	Architecture and tangible heritage
Expert 3	Cultural tourism
Expert 4	Marketing tourism
Expert 5	Biology and UNESCO biosphere reserves
Expert 6	Ecology and nature protection
Expert 7	Human geography and local communities in protected areas

#### 4.3. Procedure

The research was conducted between September and December 2023. All respondents were thoroughly informed about the purpose of the research, as well as on the identity of the researchers. The respondents participated voluntarily in the research and were informed that they would remain anonymous, and that the data gathered would be used strictly and solely for the purpose of this study. The survey was carried out in English in the form of a structured interview, where the interviewer asked the questions from the survey, filling in the answers. In this way, any possible misunderstandings of the questions were eliminated. The respondents were asked to express their preferences between different indicators (Cultural Heritage Value and Biosphere Reserve Context and Management of Cultural Heritage) with regard to the Croatian (Šokci) minority community located in the Serbian part of the transboundary Mura-Drava-Danube Biosphere Reserve, or rather to say in terms of how important they felt each indicator is by using Saaty's scale (1980) (Table 3). The authors gave a brief explanation of each indicator before and during the structured interview. The respondents were asked to assign a corresponding numerical value (Saaty's scale) to the different indicators based on the relative importance an indicator has for them.

Table 3. Saaty's scale for pairwise comparisons in AHP

Judgment term	Numerical term
Absolute preference (A over element B)	9
Very strong preference (A over B)	7
Strong preference (A over B)	5
Weak preference (A over B)	3
Indifference of A and B	1
Weak preference (A over B)	1/3
Strong preference (A over B)	1/5

Very strong preference (A over B)	1/7
Absolute preference (A over B)	1/9

An intermediate numerical value 2,4,6,8 and 1/2,1/4,1/6,1/8 can be used as well

Source: Saaty (1980)

The respondents evaluated the indicators at level two and three, assessing the level of importance through pairwise comparison, followed by the formation of comparison matrices, after which the vector of weights is calculated based on the eigenvector method. The final stage of the evaluation of the process is calculation of the CR with the aim of determining how consistent the judgements are between respondents. The CR is calculated based on the ratio of the consistency index (CI) and the random index (RI) defined by Saaty (1980). The CR was calculated and was below the threshold of 0.1. Feedback from all respondents was satisfactory, thus the research is sufficiently clear and adequate. Analysis was carried out using the statistical program "Expert Choice 2000".

## 5. RESULTS AND DISCUSSION

The research results of the evaluation of the criterion weights by the experts are represented in Table 4, with ranking according to their importance to the experts. The results show that CR is 0.04 and 0.05 ( $CR < 0.1$ ), indicating that the study is reliable and accurate and that therefore there is no need for adjustments in the comparison between criteria.

The ranking of the criterion weights on the second level (Table 4) clearly shows that the Biosphere Reserve Context and Management of Cultural Heritage (0.770) has dominant importance over Cultural Heritage Value (0.230).

Despite occasional claims that biosphere reserves are not sufficiently recognizable, unlike national parks that have clear management goals intertwined with regional development (Aschenbrand and Michler, 2021), numerous studies and works speak of the visibility of biosphere reserves globally (Schliep and Stoll-Kleemann, 2010; Schultz et al., 2011). There are many biosphere reserves worldwide with an interesting combination of biodiversity conservation, socio-economic development, and environmental education, research, and monitoring (Ishwaran, 2008). Biosphere reserves equally emphasize tradition in their visual language regarding land use practices, customs, and products. These are areas where the symbiosis of nature and humans is crucial, giving rise to the concept of cultural landscapes (Aschenbrand and Michler, 2021). Biosphere reserves are expected to promote sustainable development and enhance the implementation of Sustainable Development Goals, especially in the context of society and settlements (UNESCO, 2015b). The underlying premise behind promoting sustainable use is that local communities will strive to preserve the values of biosphere reserves if they can derive economic or other benefits from living in or near them (Ryan et al., 2013). In communication strategy, according to newer approaches, the importance of creating stories, messages, and slogans, as well as a vision embraced by all relevant stakeholders,

is emphasized, contributing to effective destination marketing, vital components of a sustainable tourism destination (Kovačić et al., 2022).

Table 4. *Rankings of the criterion weights second and third level of the hierarchy*

Cultural Heritage Value (0.230)	Identity value (0.335)
	Historical value (0.126)
	Social value (0.115)
	Symbolic value (0.095)
	Spiritual value (0.084)
	Educational value (0.073)
	Artistic value (0.073)
	Scientific value (0.051)
	Scenic/Aesthetic value (0.048)
<b><i>Inconsistency level: 0.04</i></b>	
Biosphere Reserve Context and Management of Cultural Heritage (0.770)	Cultural heritage contributes to sense of belonging of local community (0.147)
	Cultural heritage contributes to sense of pride of local community (0.146)
	Physical condition (0.085)
	Biosphere reserve title contributed to cultural heritage development (0.083)
	Tourism infrastructure (0.065)
	Suitable number of visitors (0.060)
	Vulnerability (0.056)
	Protection level (0.054)
	Local community and civil society are supportive of cultural heritage (0.053)
	Has good level of interpretation (0.050)
	A management plan for cultural heritage is developed and adequate (0.045)
	Management plan contributes to inclusive growth (0.044)
	Management plan follows participatory approach (0.040)
	Civil and political contexts are favorable to management success of cultural heritage (0.036)
	National authorities and leaders are supportive of cultural heritage (0.036)
<b><i>Inconsistency level: 0.05</i></b>	

Examples of such slogans include: 'About people, by people, for people', 'Connecting culture, nature and economy', 'Understand heritage, create future', and 'Share values and language' (UNESCO, 2021).

Table 4 further shows that on the third level of hierarchy in regard to Biosphere Reserve Context and Management of Cultural Heritage, the most dominant criteria are: Cultural heritage contributes to sense of belonging of local community (0.147); Cultural

heritage contributes to sense of pride of local community (0.146); Physical condition (0.085); Biosphere reserve title contributed to cultural heritage development (0.083); Tourism infrastructure (0.065); Suitable number of visitors (0.060); while the least important criteria are: National authorities and leaders are supportive of cultural heritage (0.036); Civil and political contexts are favorable to management success of cultural heritage (0.036); Management plan follows participatory approach (0.040); and Management plan contributes to inclusive growth (0.044).

The presence of Cultural Heritage contributes to sense of belonging of local community (0.147), and Cultural heritage contributes to sense of pride of local community (0.146) is important in the context of developing cultural landscapes in biosphere reserves. Such pride is manifested among the local population deeply aware of their tradition and seeing that tradition in the presence of both material and intangible heritage, especially regarding traditional crafts. Additionally, there is a connection with specific historical families and stories from the past (Eliasson et al., 2022). Initiatives to preserve such traditions and material heritage are often associated with addressing environmental issues because nature and cultural heritage conservation share a common purpose (Leifeste and Stiefel, 2018). Cultural development must be included in the concept of overall development, surpassing economic capacities by recognizing local identities and citizen participation. This principle is grounded in the collective will of each society and expresses its intrinsic identity (UNESCO, 2015a). Identity is significant even when organizing the boundaries and zoning of a nature reserve. Cultural or historical background, particularly in terms of “regional identity”, should be taken into account to encourage acceptance by residents and increase their willingness to contribute to sustainable development (UNESCO, 2021).

UNESCO has recognized that tourism, which essentially brings individuals and communities, and with this cultures and civilizations, into contact, plays an important role in facilitating dialogue among cultures. Tourism here has the potential to play an important role because it effectively brings people and places into contact (Picard, 2013). UNESCO’s globally recognized designations are highly esteemed as they represent an “international top tourism brand” whose classification places a destination as a world-class one. For this reason, UNESCO labelling can be a focal point for national marketing campaigns (du Cros and McKercher, 2015). It is likely that from such an accepted stance, the high ranking of the criterion Biosphere reserve title contributed to the cultural heritage development (0.083) is to be expected since biosphere reserves are one of UNESCO’s designations. The cultural heritage of the community can become a key focal experience, and an authentic landscape represents a high-quality mix of biosphere reserve products (Habibabah et al., 2013). Each biosphere reserve must fulfil its intended developmental function and promote sustainable cultural diversity (Tucakov, 2018a). A biosphere reserve must be representative of the region to which it belongs, with the aim of promoting the harmonious integration of people and nature, including respect for cultural values. Biosphere reserves are a unique tool for international cooperation through the exchange of experiences and knowledge, capacity building, and the promotion of

best practices (UNESCO, 2021). Although the UNESCO status holds significant value in creating a sense of pride among local communities, it alone cannot provide a complete solution. The position, popularity, and image of a destination prior to obtaining the status play a crucial role in its success, and owing to that, communities can benefit, for example, from tourism development (du Cros and McKercher, 2015). This approach is further supported by the respondents' stance in this study that the Physical condition of cultural heritage (0.085) has a slightly higher value compared to the Biosphere reserve title contributed to cultural heritage development (0.083). In other words, the initial values embodied in the physical condition and preservation of heritage play a crucial role in the attractiveness of biosphere reserves, as well as in attracting visitors.

Tourism infrastructure (0.065) and Suitable number of visitors (0.060) are also highlighted as important factors in promoting the conservation and presentation of cultural heritage in biosphere reserves, according to the respondents and for the purposes of this study. This result aligns with the general assessment that biosphere reserves are important tourist destinations worldwide with great potential for sustainable tourism implementation, where the socio-cultural characteristics of local communities contribute to overall development (UNESCO, 2002; Hoppstadius and Dahlström, 2015; Hernes and Metzger, 2017; Trišić et al., 2021). Generally, the number of visitors to UNESCO-designated sites shows complex interactions. However, it is often simply suggested that such a designation increases the popularity of sites and destinations among various visitor profiles (Hall and Page, 2014). Visits are also important in terms of developing necessary infrastructure, for example, in protected areas (e.g., interpretive centers, signage, educational trails), which can help enhance education and respect for the visited area (Eagles and McCool, 2002). Biosphere reserves are practically of equal importance for nature and culture preservation through tourism development, as demonstrated by examples from Slovakia, Hungary, and the Czech Republic (Nolte, 2004). Therefore, the number of tourists visiting these reserves is also linked to the issue of supporting local development, including culture and cultural heritage. Effective communication between tourists and the local population is particularly vital here to support the use of local services, purchase of local products, and contribute to the maintenance of local events or simply contribute to the preservation of local cultural integrity (Barukchieva, 2017). The importance and connection between tourism infrastructure and the appropriate number of visitors are observed in the researched Mura-Drava-Danube Biosphere Reserve, particularly in the case of ecotourism, which has a good basis for development at the Karapandža site (Stojanović et al., 2021a). It was only after the introduction of eco-educational trails and the construction of an eco-centre to receive and educate tourists, that the Karapandža site recorded a significant increase in the number of visits. This type of additional development should be followed in the efforts to preserve cultural heritage that is of interest to tourists, particularly in the vicinity of the Karapandža site.

On the third level in regard to Cultural Heritage Value, we can see that Identity value (0.335), Historical value (0.126), Social value (0.115), and Symbolic value (0.095) have

the dominant importance, while Scientific value (0.051) and Scenic/Aesthetic value (0.048) have the lowest importance (Table 4).

Cultural heritage, as a set of assets that embody the collective memory of a community, reflects the identity not only of nations, regions, or sites but also of individuals. There is a strong link between regional identity, a sense of belonging, and social cohesion (Di Pietro et al., 2017). In rural areas, cultural heritage has roots in the sense of place, as well as in the sense of identity but it is also a source of aesthetics and inspiration, thus forming the basis for recreational, educational, and tourist activities (Csurgó and Smith, 2022). In practical terms, cultural tourism is significant for preserving cultural identity, however, in many regions of the European Union, it generates profit and at the same time preserves cultural identity and promotes cultural development (Bárbara, 2015). Although cultural identity has a positive impact on the perception, satisfaction, and loyalty of tourists towards tourist destinations, competent authorities must inevitably improve tourist products and activities (Tian et al., 2020).

The research results, in the case of the Mura-Drava-Danube Biosphere Reserve, show that the identity, historical, social, and symbolic value come to the fore in the case of Croat (Šokci) community initiatives for establishing ethno-houses, which emerged as a result of the desire to preserve, exhibit, and promote numerous artefacts from the community's past. Five out of seven Croat (Šokci) settlements have ethno-houses open to visitors. These ethno-houses serve as important venues for events and festivals and as spots on tourist tours due to their symbolic significance for the identity of the Croat (Šokci) community (Stojanović and Besermenji, 2019).

## 6. CONCLUSION

Biosphere reserves represent an important global initiative by UNESCO with the aim of promoting nature protection while ensuring its sustainable use. They serve multiple functions, among which are those highlighting the protection of both biodiversity and cultural diversity. Cultural landscapes and goods are an essential part of biosphere reserves, as they result from the interaction between humans and nature, although they have not received enough attention. Therefore, this study aimed to explore and more precisely define the place of cultural heritage of a minority community within the boundaries of the Mura-Drava-Danube Biosphere Reserve (MDD BR).

The primary contribution of this paper lies in the application of the AHP method in measuring the value of the cultural heritage of the Croatian (Šokci) minority community in Serbia (Vojvodina) and in the aspects of managing this heritage in the context of the transboundary MDD BR. One of the main ideas of the paper was to determine the importance and position factors of heritage segments in practical activities for managing the MDD BR. The model was tested using the example of the MDD BR but could be applied to other categories of protected areas at the national level that also have cultural heritage. Using the AHP method might be relevant in identifying which cultural heritage characteristics in biosphere reserves are vital concerning their function

in supporting the development of cultural diversity. First, the method identified two factors that stand out: Contributes to sense of belonging of the local community, and Contributes to sense of pride of the local community. This is particularly evident in transboundary biosphere reserves, which are both multinational and multiconfessional and ultimately send a message of mutual respect and cooperation in nature and cultural heritage protection areas. The second factor that stands out for its strength and for precisely emphasizing UNESCO's recommendation is Biosphere reserve title contributed to cultural heritage development. Biosphere reserves are particularly significant places as globally recognizable categories, where humans and nature interconnect for mutual benefit, requiring mutual connection and exchange of experience in a joint effort to protect nature and preserve cultural diversity.

The synergy of responses has resulted in the acknowledgement of the Mura-Drava-Danube Biosphere Reserve as a culturally original and preserved area in which factors such as Cultural heritage contributes to sense of belonging of the local community (0.147), and Cultural heritage contributes to sense of pride of the local community (0.146) stand out. This outcome presents both a challenge and an opportunity for managers of biosphere reserves to develop sustainable tourism that is based on the community of local residents with preserved heritage. One of the main limitations of the research is reflected in the small number of respondents that participated in this research, which is related to the present-day situation where it is difficult to find experts who are competent and at the same time in charge of managing areas of heritage protection and international statuses in the area of natural or cultural heritage protection. This is perhaps related to the fact that there is only one biosphere reserve in the area of Vojvodina, declared in 2021, and only two biosphere reserves in all of Serbia. In the future, identical research could be conducted regarding this topic in other parts of the transboundary Mura-Drava-Danube Biosphere Reserve (Croatia, Hungary, Slovenia, Austria) in order to attain an overall insight of the position of cultural heritage and its importance in the management of the transboundary Biosphere Reserve. Finally, future studies should generally take a more decisive attitude towards the research of cultural heritage in biosphere reserves, because concrete details about the manner in which heritage should be studied, presented, promoted and managed in the context of the prevailing natural and socio-cultural factors of biosphere reserves are still not represented in practice, despite its diversity being considered important in the documents. Further research can be focused on applying different methods and approaches to the developed system of indicators and added comparison of the results or rather to say comparison of methods and approaches. Statistical methods such as Exploratory and Confirmatory Factor Analysis (EFA and CFA) can also be utilized to better define dimensions of the construct, and Latent Profile Analysis (LPA) to explore sub profiles. Also, the mentioned conventional statistical techniques sometimes are not adequate for capturing the important qualitative and often uncertain knowledge used by respondents in their decision making, thus one can apply fuzzy measures (Vujičić et al., 2020).



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## PROCJENA VAŽNOSTI KULTURNE BAŠTINE U REZERVATU BIOSFERE: SLUČAJ LOKALNE ZAJEDNICE HRVATA (ŠOKCI) U REZERVATU BIOSFERE MURA-DRAVA-DUNAV (VOJVODINA, SRBIJA)

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### Sažetak

*Rezervati biosfere su zaštićena područja koja su međunarodno priznata pod UNESCO-ovim programom „Čovjek i biosfera“. Njihova je svrha ispitati interdisciplinarnu pristupe upravljanju interakcijama između ekoloških i društvenih sustava. Naseljena područja i lokalne zajednice sa svojim običajima, kulturom i baštinom sastavni su dio mnogih rezervata biosfere diljem svijeta. Niz inicijativa i dokumenata potiče promicanje kulturne raznolikosti u rezervatima biosfere. Glavni je cilj ove studije ponuditi novu pogled na značaj kulturne baštine hrvatske manjine (Šokci) u srbijanskom dijelu prekograničnog područja Rezervata biosfere Mura-Drava-Dunav (MDD). Studija koristi metodu analitičkog hijerarhijskog procesa (AHP) za postizanje ovog cilja. U sklopu istraživanja intervjuirano je sedam stručnjaka za kulturnu baštinu Hrvata (Šokaca) i Rezervat biosfere Mura-Drava-Dunav. Rezultati pokazuju da su čimbenici poput osjećaja pripadnosti i ponosa lokalne zajednice ključni za očuvanje i upravljanje kulturnim vrijednostima u Rezervatu biosfere. Rezultati mogu imati praktičnu ulogu u razvoju turizma, koji je prepoznat kao jedna od najznačajnijih aktivnosti u rezervatima biosfere diljem svijeta.*

**Ključne riječi:** rezervat biosfere, Hrvati (Šokci), kulturna baština, identitet, lokalna zajednica

## BEWERTUNG DER BEDEUTUNG DES KULTURERBES IM BIOSPHÄRENRESERVAT: DER FALL DER LOKALEN GEMEINSCHAFT DER KROATEN (ŠOKCI) IM BIOSPHÄRENRESERVAT MUR-DRAU-DONAU (VOJVODINA, SERBIEN)

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### Zusammenfassung

*Biosphärenreservate sind Schutzgebiete und im Rahmen des UNESCO-Programms „Der Mensch und die Biosphäre“ international anerkannt. Ihr Zweck ist es, interdisziplinäre Ansätze für das Management der Wechselwirkungen zwischen ökologischen und sozialen Systemen zu erproben. Besiedelte Gebiete und lokale Gemeinschaften mit ihren Bräuchen, ihrer Kultur und ihrem Erbe sind ein integraler Bestandteil vieler Biosphärenreservate weltweit. Mehrere Initiativen und Dokumente unterstützen die Förderung der kulturellen Vielfalt in Biosphärenreservaten. Das Hauptziel dieser Studie ist es, eine neue Perspektive auf die Bedeutung des kulturellen Erbes der kroatischen Minderheit (Šokci) im serbischen Teil des grenzüberschreitenden Biosphärenreservats Mur-Drau-Donau (MDD) anzubieten. Um dieses Ziel zu erreichen, wurde in der Studie die Technik des Analytischen Hierarchieprozesses (AHP) eingesetzt. Sieben Experten für das kulturelle Erbe der Kroaten (Šokci) und das Biosphärenreservat Mur-Drau-Donau wurden im Rahmen dieser Studie befragt. Die Ergebnisse zeigen, dass Faktoren wie das Zugehörigkeitsgefühl und der Stolz der lokalen Gemeinschaft für die Erhaltung und das Management der kulturellen Werte im Biosphärenreservat entscheidend sind. Diese Aspekte können auch eine praktische Rolle bei der Entwicklung des Tourismus spielen, der als eine der wichtigsten Aktivitäten in Biosphärenreservaten auf der ganzen Welt anerkannt ist.*

**Schlüsselwörter:** Biosphärenreservat, Kroaten (Šokci), kulturelles Erbe, Identität, lokale Gemeinschaft