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THE TOURIST EXPLOITATION OF THE CULTURAL LANDSCAPE OF OCNA MUREȘ – AS A FACTOR OF SOCIO-ECONOMIC WELL-BEING AND AN ALTERNATIVE TO THE MAJOR IMPACT CONSEQUENCES INDUCED BY FLOODS IN THE ANTHROPOCENE

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ABSTRACT. The Tourist Exploitation of the Cultural Landscape of Ocna Mureș - as a Factor of Socio-Economic Well-Being and an Alternative to the Major Impact Consequences Induced by Floods in the Anthropocene. Human society, as an integral part of the environment, is subject to the consequences of the various specific natural phenomena and processes. Similarly, human intervention exerts its own impact on the environment, the influences being reciprocal. In the Anthropocene, the current geological period of Earth's existence, some phenomena, through their way of manifestation, can produce dramatic changes in certain environments, consequently being categorized as dangerous by humans. In the temperate zone, these include: earthquakes, landslides, large-scale storms, floods, prolonged droughts, fires, pollution, epidemics, etc., with various causes, from natural to anthropogenic or mixed. In the context of the increasingly significant phenomena related to climate change, the concerns in the field of the cultural landscape were naturally joined by those related to the study of the impact of various risks within it. As a research area, the surface of the city of Ocna Mureș, closely linked to the middle course of the Mureș River, lends itself to the investigation of the impact of these types of risks connected with the evolution of the local cultural landscape. Numerous floods have occurred over time causing immense damage to the city and, at the same time, brought substantial changes to the elements of the environment and the cultural landscape as a whole. The perpetual decline of the local economy, especially of the mining and processing industry, starting from the 1990s until recently, can facilitate the emergence of the opportunity for tourism capitalization of the cultural landscape, marked to a large extent by

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the existence of the salt resource; all this in accordance with the principles of sustainable development and careful management of potential environmental risks. These basic aspects regarding the risk of floods and the opportunity for the tourism exploitation of the local cultural landscape, stated previously, shall be analysed, argued and highlighted in the paper.

Keywords: *cultural landscape, Ocna Mureș, floods, tourism exploitation, Anthropocene.*

1. Introduction

This research aims to explain the meanings of the main terms such as: *landscape*, *cultural landscape*, *anthropocene*, *climate change*, *risk*. We also consider that this explanatory approach is relevant for supporting the general vision considered for the analysis of the theme exposed above.

2. Concepts and Terms

2.1. From Landscape to Cultural Landscape

Recent studies specific to the fields of "landscape and cultural landscape, increasingly emphasize that both terms must be understood as social constructions that may vary individually, culturally and over time. Their meaning is the result of a perception of physical space learned through social mediation, which is modified by individual experiences, opinions and emotions" (S. Heiland, 2019, p. 652).

It is well known that "until a few thousand years ago, nature was solely responsible for the image of the Earth's surface with its spontaneous or long-term changes" (G. Siegl und M. Schermer, 2012, p. 59). Human intervention, in all its aspects, has progressively shaped, over time, the natural landscape, leaving its unique social imprint, the result residing in a specific cultural landscape. The meanings of the two terms are still "open to different conceptual contents, interpretations and attributions of meaning, which can be arranged in pairs of opposites (Backhaus and Stremlow 2010; Gailing and Leibenath 2010, 2011; Heiland 2006, 2010; Hokema 2013; Kuehne 2006, 2013, 2018; Leibenath 2013)" (quoted by S. Heiland, 2019, p. 652). The variety of opinions is highlighted by the multitude of studies in this field and their results.

In an increasingly globalized world, as we perceive it today, it is obvious that the social component has played a major role and continues to do so. Therefore, "the cultural landscape has over time increasingly replaced the natural one, and each new cultural element introduced is changing the content of the original landscape, both on a physical, palpable level, and on a relational and functional level. [...] The cultural landscape is an expression of the cultural heritage, as was declared in the European Convention on the Landscape (2000), which can strengthen the regional economy through an efficient exploitation of its various resources", (Camelia-Ina Gavra, 2013, p. 25), as a direct expression of social accumulations throughout history.

The impact of the social interference on the global environment "has now become so large and active that it rivals some of the great forces of nature in its repercussions on the functioning of the Earth system" (Steffen, Grinevald et al., 2011, p. 842) (quoted by W. Haber, M. Held, M. Vogt, 2016, p. 9).

At the same time, the recent rapid technological and socio-economic evolution, which began with the historical moment of the Industrial Revolution, brought significant changes "on the landscape, influencing developments such as population growth, industrialization or revolutionary innovations in transport and agriculture that took place almost simultaneously. Compounding processes do not allow for monocausal explanatory models. In addition to old influencing factors such as settlement or traffic, new ones have been added, for example tourism" (G. Siegl and M. Schermer, 2012, p. 67).

Change appears according to social needs in real time throughout the human existence in the Anthropocene. From this point of view, it can be concluded that "dynamic change is one of its constitutive properties" (L. Gailing, K.-D. Keim unter Mitarbeit von A. Röhring, 2006, p. 13).

2.2. Perspectives on the Anthropocene

Officially, according to geologists, for the last 11,000 years, man has been living and working in the age called the Holocene. Starting from antiquity, throughout time, various people have been concerned with deciphering the mechanisms of production of phenomena and processes specific to Earth. Along with the diversification of the ways of intervention of the anthropogenic factor in the environment, the concerns for the debate about the place and role of the human factor in the environment have also intensified.

Among the first to highlight the human ability to make considerable changes to the environment was the French Comte de Buffon (1707-1788), who claimed that "people can exert an influence on the climate in which they live and are able to influence the temperature as deem appropriate" (Ch. Schwägerl, 2017, p. 12), although it is "Alexander von Humboldt (1769-1859) who can be

considered the pioneer of the Anthropocene. With the establishment of geography as a discipline, he created a framework for analyzing physical, geological, biological and social processes together" (Ch. Schwägerl, 2017, p. 12). Similar concerns had "Ernst Haeckel, the founder of scientific ecology and Antonio Stoppani, an Italian geologist and priest who wrote about the Anthropocene epoch in the 1870s (Steffen, Grinevald et. al 2011, p. 843-845, Zalasiewicz et al, 2010)" (W. Haber, M. Held, M. Vogt, 2016, p. 8).

History highlights a landmark in the use of the term. "Biologist Eugene F. Stoermer used the term *Anthropocene* informally as early as the 1980s. But it wasn't until an international meeting of Earth system researchers in 2000 that Paul J. Crutzen proposed supplementing the Holocene, which dates back to the end of the last glacial retreat, with a new geological epoch of the Anthropocene (Crutzen and Stoermer 2000). The real breakthrough came with the publication of Crutzen's (Crutzen 2002) *Geology of Mankind* in the journal *Nature*" (W. Haber, M. Held, M. Vogt, 2016, pp. 8-9). Inherently, scientific debates have risen around the meanings of the term currently in use. According to some opinions, it "can be understood essentially as global pollution of the environment and changes in the material cycle resulting from the industrial revolution or even from the end of the Second World War" (H. Gebhardt, 2016, p. 28), sometimes in relation to the phenomenon of globalization, "this applies to global environmental challenges such as climate change, but it also applies to economic relations or international geopolitics. From a global perspective, we live in a world characterized by rapid changes in technology, environment, science and political systems" (H. Gebhardt, 2016, p. 29).

Both Crutzen & Stoermer (2011) and Steffen et al. (2011) divided this period, marked by the anthropogenic factor, into three distinct stages starting with the one between the start of the Industrial Revolution and 1945, as the beginning of social development, followed by the period after the Second World War, until now, distinguished by the acceleration and expansion of all elements, processes and phenomena related to the anthropogenic component. The third stage refers to the present time, a stage of full awareness of human intervention on the environment and at the same time a stage that demands concrete decisions and actions in this regard, sometimes by establishing "environmental protection as a new policy field with its own authorities, offices and laws" (W. Haber, M. Held, M. Vogt, 2016, p. 10).

Moreover, Ch. Schwägerl, 2017, p. 12, is also of the opinion that "behind the cumbersome term nothing less than a geological revolution is hidden. Man becomes a geological actor. What we are doing on, in and with the Earth is so profound and long-lasting that scientists want to declare a new Earth epoch to follow the current Holocene".

The central idea that fully expresses the characteristics of the name *Anthropocene* can be distinguished, namely the supremacy of human intervention on the natural environment in its direct relationship with it.

2.3. Climate Change and the Risks Associated with them – Consequences of Contemporary Human Action

Although the Earth has experienced various major changes throughout its history, produced naturally, the multiple, intense and continuous human intervention of the Anthropocene turns out to be roughly similar in magnitude to the natural ones, with major global impact. Climate warming and its multiple consequences is currently the main concern of human society, increasingly subjected to associated risks. "In order to combat the effects arising from this problem, measures are being taken on a global and national level with the objective of limiting global warming to less than 2°C, and limiting the associated risks. According to the 2018 Report of the Intergovernmental Panel on Climate Change [IPCC], some effects of climate change could be avoided by limiting the global temperature increase to 1.5°C compared to the pre-industrial period" (Cristina Humă, 2019, p. 18). This way, "the current, fast and ample rhythm in which they are produced, constitutes the major challenge of our epoch. Taking action to combat climate change is a central concern of the international community, as climate change, through its multiple and irreversible consequences, shapes the human existence, the future of civilization and the planet" (A. Bulgaru - coord., Daniela Albu, Anca Moț, Maria-Beatrice Berna, 2020, p. 11). These topics played a central role in various conferences, materialized through various agreements such as **the Kyoto Protocol and the Paris Agreement of 2015** (the first global agreement to combat climate change).

At national level, combating the effects of climate change has become a priority through the "National Strategy on Adaptation to Climate Change for the period 2022-2030 with the perspective of 2050" (SNASC) and the "National Action Plan for its Implementation" (PNASC). These ensure the revision of the "Strategy on climate change and economic growth based on low carbon emissions for the period 2016-2020", approved by Government Decision no. 739 of October 5, 2016, published in Official Bulletin no. 831 of October 20, 2016, regarding the adjustment and the development of a new Action Plan (First version of the National Strategy on Adaptation to Climate Change for the period 2022-2030 ..., p. 2).

Climate change is directly related to various risks with potential negative consequences on the natural and anthropogenic elements of the environment. "There are multiple criteria of risk classification. According to the genetic criterion, which is the most frequently used, most researchers accept three

large categories of risks: technological, social and natural, which in turn present several types" (V. Sorocovschi, 2002, p. 57). Of these, in the Anthropocene period, the risk of floods is notable for their frequency of occurrence and often for their inherent negative consequences. "Precipitating events of stronger intensity have become more frequent in recent decades in Romania (Busuioc et al., 2017) with the increased frequency of floods (Croitoru and Minea, 2015), Romania already being reported as one of the countries that are most prone to floods from Europe (Pollner et al., 2010)" (cited by Mihaela Caian et al., p. 2).

3. Ocna Mureș. Location and Physical-Geographical Characteristics

The main characteristics of the local cultural landscape are revealed through its natural and cultural elements. The analysis of the local natural particularities, highlight the conditioning elements of the social component and implicitly of the cultural landscape, as a bilateral construct.

The analysis of the topographical map shows the geographical location of the town of Ocna Mureș in the form of hilly land and alluvial surfaces in the north-eastern part of Alba County, on the left bank of the middle course of the Mureș River. Its bounds are the Alba Iulia-Turda Corridor to the west, the Mureș Corridor to the north, the Ciungii Hills (Nejoapa Hill) to the southwest and Banța Hill to the south.

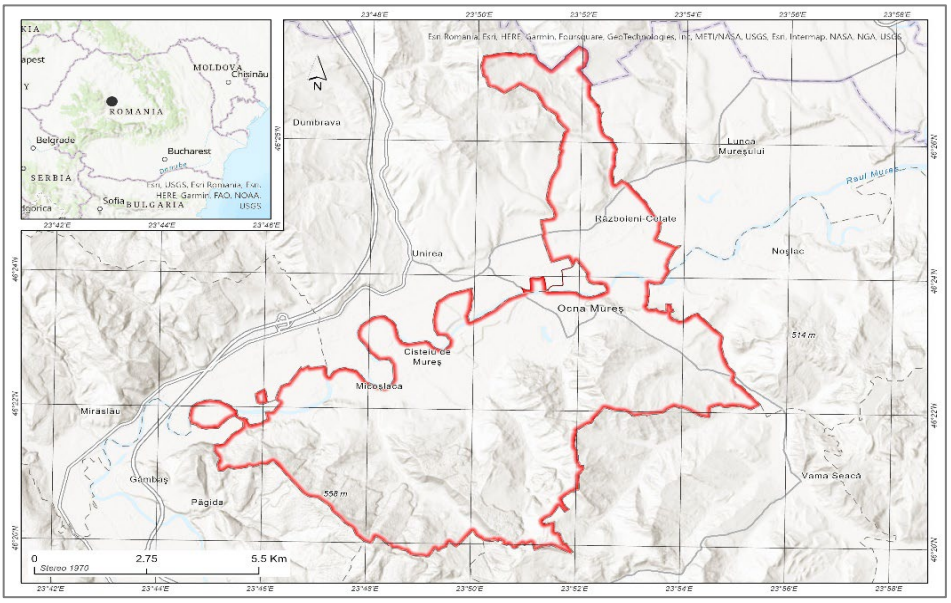

Fig. 1. Ocna Mureș City Map

As far as the administrative structure is concerned, in addition to the urban area, the city also includes the following localities: Uioara de Sus, Uioara de Jos, Cisteiu de Mureş, Micoşlaca and Războieni-Cetate.

The landforms found on the territory of the city of Ocna Mureş and in its vicinity are characterized by variety, including areas of lowlands, hills, plateaus and valleys. Along the Mureş River there is an upland (altitude 264 m above sea level), stretching from the foot of the terrace on which the Uioarea de Sus neighbourhood is settled and evolving to Cistei. Hills surround the city, in a semi-circular shape, from the southwest to the northeast, with the Nejoapa Peak standing out – on the border between Ciunga and Ocna Mureş, with extensions towards Banţa Hill whose highest peak is the Gurguleu Peak (524 m – the highest altitude of the land). The hills of Banţa are at the base of the vast "Larga Plateau" whose eastern edges lean against the slopes of Spalnaca (P. Petcu et al, 2009, p. 116).

The analysis of the main climatic parameters includes this location in the transitional temperate continental climate, the multiannual average temperature being 9.2 degrees C, while the precipitation averages 520 mm/year. The average values of temperature and precipitation show the influence of the foehn winds specific to the Mureş Corridor, located to the east of Apuseni Mountains (V. Arghiuş, Al. Ozunu, 2005, p. 185).

The hydrography is shaped by the course of the Mureş River which has an average low discharge slope, which makes it meander and create small sandy beaches. The annual flow, at Ocna Mureş, is 71 m^3/s (N. Dobra, 1996, p. 8).

Fig. 2. The Mureş River

The man-made saline lakes that exist today (Lacu Minelor Romane, Lakes Iosif, Francisc, Ferdinand, etc.) owe their existence to a natural hazard represented by the overflowing of the Mureș River in 1913, followed by the flooding of the long-exploited salt mine galleries, and the collapse of their ceiling.

In Ocna Mureș, on the right bank of Mureș as well as in the neighbouring Farău area, there are regosols (young soils, formed on silty deposits - sands, loess, clays, marls, etc.), and brown, clay soils exist in the built-up area of the city. The hills to the left of the river are made of Tertiary slates, and in the Mureș valley there are alluvial soils that were formed by repeated floods. Salt reserves are abundant under the town - Ocna Mureș being the only town in Alba County where this mineral is exploited. In the depths of the Banța Hill, "there are significant exploitable reserves of bentonite (clay sedimentary rock, composed of hydrated, colloidal aluminium silicate)" (N. Dobra, 1996, p. 9). Its exploitation brought along cultural elements under the form of a quarry.

The observation of natural elements of the biosphere highlights the existence of spontaneous flora and fauna specific to the latitudinal position of the studied territory and the altitude at which it is found. In the category of shrubs, the blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), dog rose (*Rosa canina*) stand out, and of the deciduous trees, oak (*Quercus robur*) and walnut (*Juglans regia*). As the altitude increases, we find a mix between these deciduous trees and pine (*Pinus sylvestris*) etc. It is a suitable environment for the evolution of some animal species closely related to the lowland and forest-steppe area, dominated by insects, birds and fauna that mostly comprises hunting species.

Consequently, the high degree of natural favourability associated with the existence of the salt resource supported the early habitation of this territory and its gradual shaping, the local cultural landscape taking shape through the permanent accumulation of specific anthropogenic elements.

4. Brief History

Relevant aspects of the city's historical evolution have left their various marks, either less seen in the local cultural consciousness, or obvious, directly through distinct elements integrated into the cultural landscape.

The town of Ocna Mureș is one of the most ancient localities in Romania (N. Dobra, 1996, p. 4), its history being "closely linked to the presence of salt and its exploitation" (I. Chintăuan, Ioana-Cristina Chintăuan Marquier, 2022, p. 34). Over time, the resource encouraged the appearance and territorial expansion of the settlement above a "giant cube of salt, shaped like a bell, that stretches over an area between Banța Hill and the bank of the Mureș River. The top of the deposit, the upper part of the bell, "pokes" the ground less than 500 meters

under the present civic centre of the city, where, almost 2000 years ago, the first Roman galleries were excavated and where the Dacians discovered salt" (Melania Hanciu, 2002, p. 25).

The settlement is "mentioned in a document for the first time in 1203, with the name Uioara, then on January 13, 1280, in a deed of exchange of estates, and in the 17th century as *castrum et oppidum*. The locality began to develop especially after 1791, when the systematic exploitation of salt started" (D. Ghinea, 2000, p. 892). The extended period of salt extraction in various forms - culminating in the systematic one, in the galleries - was interrupted in 1913 by the overflowing of the waters of the Mureș River and the flooding of the mines. Mining resumed later, in 1952, through an innovative method, adapted to the new conditions, of extracting salt in solution, with the help of probes, a process that enriched the cultural landscape with new elements.

5. The Tourist Elements of the Cultural Landscape in Ocna Mureș

The analysis of the elements of the cultural landscape relevant from the point of view of tourism and ready to be capitalized accordingly is based on their uniqueness and functions within the whole.

The existence of mineral resources such as salt, high-concentration chloride-sodium mineral waters or anthropogenic ones, introduced during the history of local society, which serve tourist, recreational or curative purposes, facilitated the emergence of a specific infrastructure and finally a cultural landscape opened to tourism.

The versatility of this resource has facilitated the development of a third sector of the local economy by exploiting the salt baths as a tourist destination. Their establishment "was determined by the facility of supplying high-concentration sodium chloride mineral waters, coming from the local salt mines. Initially, the baths were set up on a different site than the current one, in a wooden building, with very modest equipment" (N. Dobra, 1996, p. 99). After 1910, the baths were functional at a level corresponding to the historical era of development, but from the the 90s until now they have fallen onto progressive decline. Recently, the baths have been rebuilt on a different location, hence future opportunities for local socio-economic development.

The Treatment and Leisure Centre in Ocna Mureș that we have nowadays means "a touristic complex with spaces for leisure, fitness room, restaurant, treatment rooms, medical recovery, beauty salon, spa equipment and products, shops, and cosmetics, swimming pool, playgrounds for children, sports fields, etc." (I. Chintăuan, Ioana-Cristina Chintăuan Marquier, 2022, p. 43). All these "facilities highlight the therapeutic qualities of the treatment with salt from Ocna Mureș" (Laura Arăboaei, 2006, p. 43).

Fig. 3. Ocna Mureş Treatment and Leisure Resort

This resort offers a vast array of treatments, for: ENT conditions, diseases of the peripheral nervous system, bone malformations, obesity, trauma, degenerative rheumatic pathologies, etc.

The saline lakes, which appeared on the site of the former exploitation galleries, complete the local cultural landscape. In the context of tourist activities, they also make a difference as landscape elements, a testimony of the consequences of the local floods in the Anthropocene.

In addition, "the Banţa forest, which is a real dendrological, flora and fauna reserve, stands out as an ideal leisure space, a destination for picnics and hiking. The Teleky Castle (dating from the 10th - 11th centuries), features a park with paths and trees, among which acclimatised species, some of them dendrological rarities; the ruins of the Romanesque Church (1300); The Union Oak, which was planted in memory of the Union of 1918" (P. Petcu, et al, 2009, p.118); cultural-folkloric activities that illustrate traditions, customs and other such elements of local culture.

6. Tourism Exploitation - As a Factor of Socio-Economic Well-Being and Alternative to the Consequences Induced by Floods

Tourism, as a phenomenon, represents a "form of valorization in a special way of natural resources and human heritage, which in the last century became an economic branch with a major impact on the contemporary world" (N. Ciangă, 2006, p. 11), with special social and environmental implications, being

"generated by the human need for knowledge, recreation and physical/ psychological therapy within a demanding civilization, but with superior material possibilities for the majority of the population" (P. Cocean, 2007, p. 15).

Tourism is also in "close connection with the development of society, representing, today, one of the most profitable segments of the world economy, its most outstanding features being: dynamics, effervescence, motivational diversity and a polychrome palette of forms of manifestation" (H.- V. Conţiu, 2012, p. 12).

The cultural landscape in its entirety or in part, through the elements with potential tourist functions, have become the object of the field of tourism, conceptually or even practically. This way of valorisation represents a form of human activity relatively friendly to the environment, in agreement with the recent requirements regarding its protection. It is also a source of increasing well-being and a way to preserve local cultural elements from time immemorial, as landmark elements for local identity.

Thus, the recent economic changes that led to the decline of the local economy in Ocna Mureş could become the seeds of socio-economic relaunch by facilitating the emergence of the opportunity for tourism capitalization of the cultural landscape, defined to a large extent by the existence of salt as local specific resource.

The situation at Ocna Mureş is special, on one hand due to the fact that the massif of salt is located in the centre of the urban space, and on the other hand because the exploitation of salt through kinetic dissolution (wells) continues even now. For these reasons, the tourist component was secondary, the main concern being that of protecting the vicinity of the lakes induced by exploitations (M. Alexe 2007, p. 241).

The revitalisation of balneary tourism, practiced intermittently since its beginning until now, is brought into discussion. The local salt resource can be exploited according to the principles of sustainable development, in a non-intrusive and non-polluting manner, but with medium and long-term socio-economic benefits for the local community. A concrete proof in this sense is the conclusion of the partnership between the Alba County Council and Ocna Mureş City Hall, regarding the use of the current salt baths.

,,Taking into account the fact that the town of Ocna Mureş is located in a mono-industrial area affected by restructuring processes, the spa complex therefore offers the possibility..." (P. Petcu, et al, 2009, p. 119), "to the development of tourism which will act as an integrating force, able to spark the development of other sectors, thus improving the standard of living" (Fotiadis, 2009, quoted by Carmen Bodea, 2014, p. 14) of the city's inhabitants. The creation of new jobs and, at the same time, the reduction of unemployment, the preservation of

elements of the local cultural landscape and their integration into the tourism package for capitalisation, can also be counted among the benefits of tourism in the area.

The desired economic evolution needs to be correlated with the evolution of natural and anthropogenic elements in a sustainable dynamic balance, in accordance with global trends regarding environmental protection.

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