

# TOURISM PLANNING OPPORTUNITIES FOR THE SALT LAKES OF OCNELE MARI AND OCNIȚA

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**ABSTRACT.** **Tourism Planning Opportunities for The Salt Lakes of Ocnele Mari and Ocnița.** Ocnele Mari used to be a popular balneal tourism destination in the Southern region of Romania, Oltenia. Due to the hilly climate and the two balneal establishments of Ocnele Mari and Ocnița, tourists could find the necessary natural cure factors for rheumatic and cardiovascular diseases. However, the salt from Ocnele Mari was also used for industrial purposes, being extracted through solution mining, which proved to be detrimental to the environment. Salt underground dissolution caused land subsidence and landslide in the area, together with the formation of large salt lakes. Security became an issue, the number of tourists diminished and the balneal equipment became obsolete because of lack of modernization investment. Under these circumstances, on the basis of field work, we have reached the conclusion that a better planning of the resort and of the salt lakes would contribute to the economic development of the region.

**Keywords:** salt lake, balneal tourism, prophylaxis, Ocnele Mari

## 1. INTRODUCTION

The purpose of the present research is to explore the development opportunities for Ocnele Mari and the surrounding area. Considering the geomorphologic events which took place in 2001, 2004 and 2009 – landslides and collapse of salt exploitation roofs, which resulted in sink holes and land subsidence on an extended surface area – the authorities decided to evacuate the affected area and to control the excavations in the unstable ground. In the sunken caverns the water resulted from the brine well exploitation together with meteoric water formed salt lakes. Hence, security became a major issue in the locality, determining tourists to avoid the area, even if it possessed high quality mineral waters, which led to the region decay and underdevelopment.

Therefore, after analysing the potential of the natural resources from the area, more particularly the salt lakes, we posed the following question: *what development opportunities do the salt lakes from Ocnele Mari and Ocnița present?* To answer this question we proceeded to the evaluation of the area natural resources (localisation, mineral waters and salt lakes), of the tourist infrastructure *status quo*, as well as of the damaged area. We consider that the lack of

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infrastructure and modernization are the main drawbacks of the development in Ocnele Mari, as well as the area depopulation.

In order to determine the development strategies applicable to Ocnele Mari, after having diagnosed the main problems of the area, we explored the potential of the newly created salt lakes and the way in which they may transform from a drawback factor into an attraction factor in the area. With a careful correctly dimensioned territorial planning action, Ocnele Mari could become an attractive alternative destination for week-end tourism, specialized on short-term prophylaxes therapy, especially for the population of Râmnicu Vâlcea Municipality.

Bearing in mind this opportunity, the present paper focuses, first of all, on the formation process of the salt lakes of Ocnele Mari, continues with an analysis of the mineral water quality, with reference to the diseases that may be treated through hydrotherapy, and presents, in the end, the required tourism infrastructure and tourism developing strategies that should be implemented to restore the balneal function of Ocnele Mari.

The methodology of this empirical research is based on field observation and on the analytical method, integrating both qualitative and quantitative approaches (which shall be further developed in forthcoming studies on the newly formed salt lakes of Ocnele Mari) on the tourism development potential of the salt lakes of Ocnele Mari and Ocnița.

## **2. GENERALITIES ON SALT LAKES**

### **2.1. Definition**

A salt lake is a landlocked body of water where a continuous process of salts accumulation takes place (mostly sodium chloride), having a concentration of dissolved minerals significantly higher than most lakes (over 24,7 grams of salt per litre), (Gâstescu, P., 2000:23). The origin of its salt is in earlier marine deposits or comes from high soluble salt content of the rocks that form the geology of its drainage basin.

Salt lakes tend to be closed lakes, having no outlets, fed principally by surface inflow via general runoff and small streams and through direct precipitation.

### **2.2. Salt lakes formation**

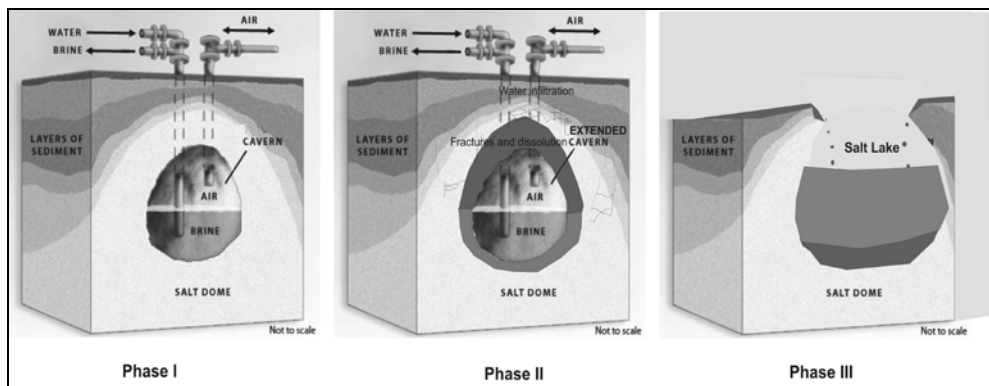
It is well known that the lake, as a component of the geographical environment, reflects the association of two important elements of the latter – *the depression* as the negative relief form of the earth's surface and *the water*, product of the area climate. (Gâstescu, P., 1971:35)

When analysing the way the salt lake basins were formed, it is possible to observe that there are two types of salt lakes: natural and anthropogenic ones. We shall focus on the formation of anthropogenic salt lakes, which occur in our study area.

The *anthropogenic salt lakes* may appear in abandoned salt mines or in brine well exploitation caverns. They are included in the category of anthropogenic lakes because the depression where they installed in was man made.

The salt lakes from Ocnele Mari are interesting as to their formation process: although all the lakes constituting the Ocnele Mari complex are a result of salt exploitation, the salt exploitation technology differentiates the salt lakes formed in abandoned salt mines and the salt lakes formed in brine well exploitation caverns. Salt mine lakes have a bell- or trapezoidal-shaped, small area basin of great depth (Balta Roşie reached 170 m), whereas brine well lakes are larger, also deep, and at the bottom, there is a layer of mud, resulted from the earth fall of the exploitation ceiling. The age of the lakes is also different, those formed in former salt mines date since 1812, 1820, 1848: Balta Roşie, Baia Dulce and Baia Sărată, while brine exploitation salt lakes are relatively recent: 2001, 2004-2005 and 2009.

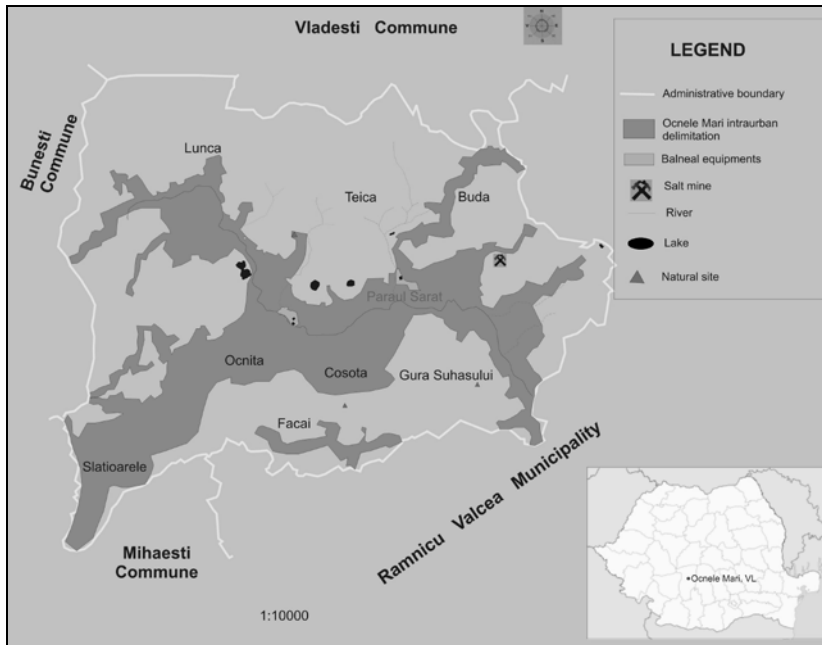
Brine exploitation salt lakes are the example of an unsustainable exploitation salt technique (*solution mining for salt*), which started in the socialist time, in 1955, when the Govora Chemical Plant opened. The raw material was transported through pipes from the salt brine fields of Ocnele Mari. Because of the adjacent wells positioning and the geology of the region (tufa, sand, breccias and salt) (Badea, L., Bugă, D., 1992), the ceiling of the underground cavities fell and large salt lakes appeared as consequence of the pumped water accumulation in the cavern formed underground (Figure 1).



**Fig. 1. The evolution of salt solution mining, from underground cavern to salt lake**  
(source: adapted and completed by the author after <http://www.genuinepermian.com/>)

### 3. DESCRIPTION OF STUDY SITE

Ocnele Mari is situated in the central-southern part of Romania, 8 km west from Râmnicu Vâlcea Municipality, surrounded by the Sub-Carpathians of Vâlcea. The locality unfolds in a depression (320 m altitude), along Valea Pârâului Sărat (The Salted Creek), the main hydrographical artery in the area, tributary to the Olt River (Berbece, V., 1982:114). The city includes Ocnele Mari and Ocnița seasonal resorts and the villages: Buda, Coșota, Făcăi, Lunca, Slătioarele and Țeica. (Figure 2)



**Fig. 2. Localization of Ocnele Mari and component territory**

(source: the base map is represented by the Functional Zoning map of the General Urban Plan of Ocnele Mari, 2009)

There are many lakes in this region, the majority being salt lakes, but there are also a few fresh water lakes: Doamnei Lake (at 375 m altitude, 3100 m<sup>2</sup> surface area, and 1.5 m depth), located at Gura Suhașului Hill and Covoi Lake located on the Goruniș Plateau.

The salt lakes of Ocnele Mari are used in balneal therapy due to their natural characteristics (concentrated salt mineral waters coming from the heliothermal lake – up to 250g/l), and due to the existence of sapropelic fossil mud, with beneficial and therapeutic properties. Thus, the first balneal base opened in 1812, on Balta Roșie site.

#### **4. THE BALNEAL AND TOURISTIC ACTIVITY**

Ocnele Mari, the first balneal establishment, was designed by Ioan Claus in 1894. Even if it was a rudimentary establishment made out of wood, there were cabins for changing clothes, separate resting rooms for men and women, and a hot water bathroom equipped with a 2000 l boiler (Berbece, V., 1982:125). Since then, the balneal function emerged in Ocnele Mari, the balneal resort developing within the human settlement that existed in the depression (Ocnele Mari was first mentioned officially in 1402), occupying the part of the territory where the balneal resources were located (the salt lakes). Hence, Ocnele Mari and Ocnița met the criteria for the development of balneal cure tourism: an urban environment (access infrastructure, accommodation infrastructure, balneal establishments) and good natural cure factors (mineral waters, therapeutic mud, a salt mine). The decline

started after 1992, when the balneal resort was no longer state-administered and the new owners did not invest in new equipment.

In order to encourage tourist to come and visit or choose Ocnele Mari and Ocnita for balneal treatment, it is necessary to facilitate visitors' easy reach of the region through a good access infrastructure, and provide high quality services (accommodation, food services, information, medical assistance and entertainment). Particular attention should be paid not only to the development of infrastructure, but also to tourism attraction strategies so that tourists come to the region all year round.

#### 4.1. The tourism infrastructure

The touristic amenities of Ocnele Mari are represented by various tourist resources. However, the infrastructures are underdeveloped and therefore, the resources cannot be exploited to their full potential, being untapped. Even if the natural potential is considerable and numerous diseases can be cured here, at present, because of the poor balneal equipment the resort is open in summertime. We noticed that the general infrastructure and the tourism infrastructure have many dysfunctions, being underdeveloped, obsolete and unused. The tourism infrastructure is insufficiently modernized as far as comfort and service quality are concerned. For example, there are only 6 accommodation places in Ocnele Mari, which cater for both Ocnele Mari and Ocnita, providing for only 93 persons (Table 1). Considering the small number of accommodation places, it is obvious that most of the visitors come for the day and only a small number remain for balneal therapy in the locality.

**Table 1. Accommodation structures in Ocnele Mari**

Accommodation categories			Number of places
Type	Classification	Number of units	
Pensions	3 stars	1	30
Villas	-	1	15
Holiday houses	-	2	21
Guest houses	-	2	27
<b>Total</b>		<b>6</b>	<b>93</b>

(source: [www.turistinfo.ro](http://www.turistinfo.ro))

The balneal equipment in place comprises two balneal bases, one in Ocnele Mari and the other one in Ocnita, dating back to 1925, and completed and restored in 1950.

#### 4.2. Tourism development strategies

The tourism development strategy for Ocnele Mari should take into consideration the reorganization and a new urban planning strategy for the area. The natural amenities represented by the salt lakes and their water characteristics (mineral hypertonic athermic waters) need to be rendered cost-effective for the sustainable development of the area. Therefore, based on the observations in the field, we consider that the salt lakes of Ocnele Mari and Ocnita should be better planned and equipped.

In Ciangă's opinion (2007:156), which we adopt, in order to sustainably plan a balneal resort, it is important to correctly size the tourism infrastructure according to the balneal resources and the tourists' motivations, both for indoor treatment as well as for outdoor therapy (e.g. therapy parks, walks etc.).

The tourism development strategies for Ocnele Mari, as well as the County Territorial Planning Plan (PATJ) for Vâlcea County favour the idea of planning *small and medium balneal establishments*. In order to put this idea into practice, there need to be investment in infrastructure restoration and in opening a permanent balneal establishment for cure and relaxation.

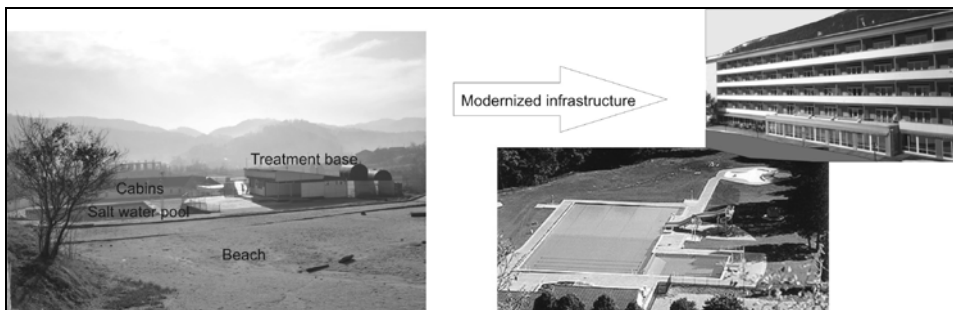
The related funds for the rehabilitation projects and other new development projects concerning general and tourism infrastructure can derive from the Regional Operational Programme (POR), which encourages the planning of natural sites with tourism potential. The actions that may be undertaken in order to plan a natural site with tourism potential are: *to provide tourism infrastructure for the natural sites (geological sites, caves, salt mines, mines, lakes etc.) through lighting, heating, ventilation equipments, creation and/or rehabilitation of bathrooms, creation of waste deposit platforms, creation/ rehabilitation and extension of recreational infrastructure* (European Project Consulting, 2008).

Taking into consideration the planning principles, the intended development strategy for Ocnele Mari and some foreign examples of good practice in balneal tourism activity (Thermes Sextius in Aix en Provence, France; Bad Sulza in Germany; Bad Loipersdorf in Austria – Figure 3), we propose the following territorial planning for Ocnele Mari:

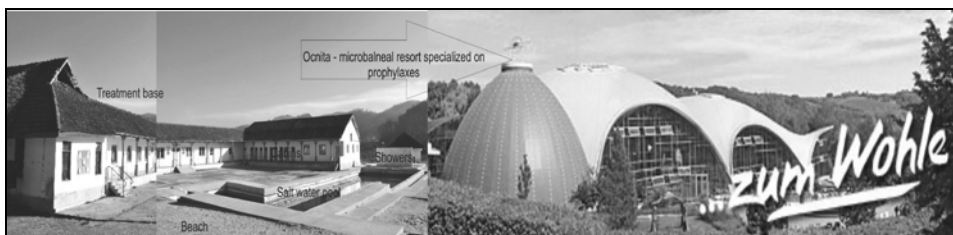
**Firstly**, it is important to consider the correlation between the tourism types practised in the area, the number of visitors and infrastructure. Within this framework, the tourism types which can become operational are week-end tourism for relaxation and balneal tourism for prophylaxis, therapy and recovery. Therefore, the balneal infrastructure must be in accordance to the touristic demand. For instance, a modernized treatment base is compulsory for balneal treatment: bathes, massage, medical therapy, mud packaging, fitness equipments, pools, cabins for changing clothes etc. The balneal base of Ocnele Mari as well as the one of Ocnîța are well out of date and have not been rehabilitated since their opening. In the case of the balneal base of Ocnele Mari it could be planned to host a recovery clinic, with a diagnosis centre and accommodation (Figure 3).

In the case of Ocnîța, the treatment base could be remodelled and specialized for prophylaxis cures and for week-end leisure, focusing on indoor equipment which is available all year round. The water equipment should adapt to a very important tourist category: family with children, and the pool should be designed with a less deep sector for children, continued with a progressive one for adults. (Figure 4)

**Secondly**, air therapy is as important as hydrotherapy. Therefore, therapy parks are also important in any balneal resort. They may be used before and after the medical therapy, being a relaxation place.

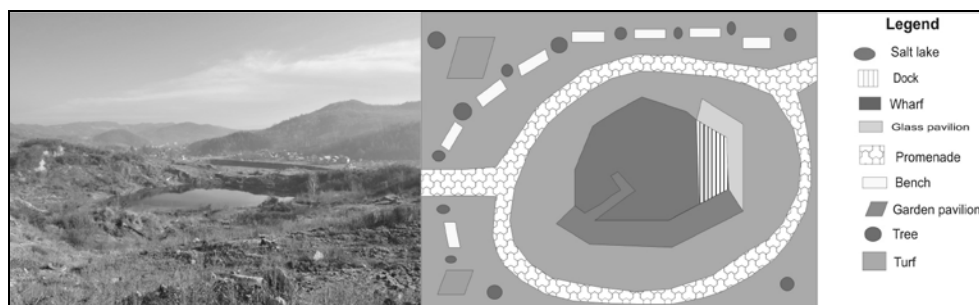


**Fig. 3.** *The example of a recovery clinic in Leukerbad (Switzerland) that may be applicable to Ocnele Mari treatment base*



**Fig. 4.** *Ocnitza balneal base and the example of Bad Sulza (Germany)*

Such a therapy park may be planned on one of the abandoned brine well fields, where the cavern roof has collapsed and a salt lake emerged between 2001-2005. This area needs stabilization interventions, but due to the fact that since 2005 no landslides have taken place on the site, it shows potential for light equipping (benches, garden pavilions, flower beds and trees with adventitious roots that stabilize the land). The salt lake may have some entertainment equipment such as a small dock for pedal boats and a wharf that may be used for heliotherapy (Figure 5). Moreover, this site has the advantage of being close to the central area and the balneal base of Ocnele Mari.



**Fig.5.** *Example of reconversion on a disused site*

**Finally**, taking into consideration that there are still active brine well fields exploitations in Ocnele Mari, a clear distinction between the economically productive area and the touristic area must be done so that any interference be avoided. A protection area, such as a buffer zone between the two areas would be welcomed in terms of safety and environment protection.

## 5. CONCLUSIONS

Salt lakes provide many tourism development opportunities. Regardless of the way in which they formed, they usually have quality mineral water, rich in salts and with therapeutic effect. Balneal resorts developed due to such cure factors and salt water has an infinite number of therapeutic indications.

In Romania, balneal tourism is an important tourism form, and balneal resorts emerge where geologic salt deposits are located. In the Southern part of the country, Ocnele Mari is known for its good quality mineral waters. Unfortunately, because of the lack of capital investment in infrastructure, as well as the occurrence of landslides in the area, there has been a dramatic decrease of the number of incoming tourists in the last 9 years. To this, we can add the decay of the Romanian health protection system, which diminished the number of subsidized treatment tickets in balneal resorts.

The deterioration of the population's health condition is an argument for the development of balneal tourism and an opportunity for increasing incoming tourism. Not only do the balneal factors have a threefold effect (prophylaxis, therapy and recovery), but the balneal treatment is also an alternative to medication and has proved to be beneficial both for the body and the mind. Under these circumstances, we consider that in Ocnele Mari the conditions for balneal tourism development are met and there is the opportunity for sustainable development in this field. The balneal treatment bases of Ocnele Mari and Ocnița should be modernized and specialized, the former on recovery treatments, and the latter on recreation, well-being and prophylaxis. In addition, the indoor and outdoor facilities for bathing therapy, mud packs and for practising sports would considerably increase the chances of tourist flows all year round.

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