

# RODBAV BATHS RESORT (BRAȘOV COUNTY) – THERAPEUTIC POTENTIAL AND ITS EXPLOITATION

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**ABSTARCT.** – **Rodbav baths resort (Brașov County) – Therapeutic potential and its exploitation.** Rodbav Baths, former seasonal spa resort of local interest, due of its geographical position and therapeutic factors still available, may become again in the future, an important location for treatment but also for relaxation, rest as well as physical and psychological rehabilitation. On the other hand, its specific therapeutic natural potential may represent an alternative to drug treatment as the use of mineral water and therapeutic mud in spa treatment has had obvious results in improving or remedying certain illnesses throughout time.

This paper aims to highlight the therapeutic potential of Rodbav Baths, which consists in natural and anthropogenic resources, as well as the need to harness the best of it, through appropriate infrastructure and sustained promotion, so that the touristic product offer should be of good quality. The paper is based on information and data obtained from specialized sources or documents from the national archives of Brașov as well as from field investigations and measurements performed in the period 2010 - 2012. They were then processed and systematized to achieve the graphic and cartographic material. Last, but not least, images, illustrating the observed phenomena were used. The final results are highlighted in this paper. Thus, it presents the types of mineral waters of Rodbav Baths and their therapeutic importance, their spreading around the studied site, the spa features of the area, and current and future means of developing spa and healthcare tourism.

**Keywords:** mineral waters, therapeutic potential, spa tourism, healthcare tourism, Rodbav Baths.

## 1. INTRODUCTION

The exploitation of the therapeutic potential of Romania, in general, has led to the development of *spa tourism*, a term of different interpretations from the point of view its use. According to the Tourism Research Institute “*spa tourism represents the means and the touristic facilities designed to highlight the natural factors (mineral waters, mud, therapeutic gases, the seaside with its complex of therapeutic factors, and others)*” (Ianc, 2006). The dictionary of touristic terminology, defines the tourism for treatment and spa curing as “*that form specific to holiday tourism practiced by people traveling to spa resorts for healthcare or prevention of diseases*” (Stănciou, 1999).

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Unlike other countries, such as Spain, France, Italy, where spa tourism is thought to be seaside tourism, in our country spa tourism includes certain treatments for prevention or alleviation of diseases by use of therapeutic factors. Nowadays, in addition to certain hereditary diseases or "acquired" during lifetime, stress and noise pollution, are part of the existence of us all, and therefore, the individual's right to proper healthcare should be a priority for decision makers. To this end, the concept of *healthcare tourism* has been increasingly used, by its awarded importance, it could have a great impact not only on patients, but also on society as a whole. The literature in the field states that „*healthcare tourism is the kind of tourism that includes medical, curative, and prevention tourism*” (Stănciulescu et al., 2000). The International Union for Official Tourism Organization (I.U.O.T.O.), defines healthcare tourism as follows: “*Ensuring good health condition by using the natural resources of the country, especially the mineral waters and the climate*”. This definition is fairly simplistic, referring only to spa tourism. Therefore, we must emphasize that healthcare tourism should represent a new vision of spa tourism, which will widen the meaning and will experience new directions aimed at the modernization and diversification of the touristic offer or products. On the other hand, tourism in general, represents an economic development strategy that could bring important income to many communities thus receiving economic benefits for their future development.

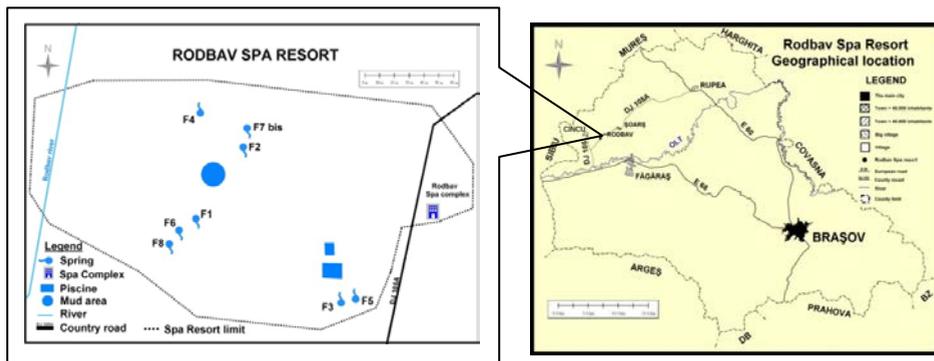
This paper aims to highlight the therapeutic potential of Rodbav Baths, represented by natural and human resources and the need to make the best of it. We consider that this paper contribute to completing and updating information on the physicochemical properties of mineral waters at Rodbav Baths and current state in which the resort is.

## **2. SITE STUDY, DATA, AND METHODS**

The site is the spa resort of Rodbav Baths, in Braşov County, located 1.5 km from the village with the same along Rodbav River Valley, in the plateau of Hârţibaciu, at an altitude of 467 m and covering an area of 1.1 km<sup>2</sup>. County Road 105A (Fig.1) ensures the connection between the Baths and the city of Brasov (located approximately 80 km away), up to Voila locality. It continues by European route E68 (Sibiu-Braşov that passes through the town of Făgăraş (25 km from the Baths).

The climate is specific to the intermountain depression, with an average annual temperature of 7.5 °C (in July is approximately 18.4°C, and in January 5.5°C). The annual rainfall reaches an average of 700 mm.

The information recovered and presented in the paper were obtained from the literature sources or old documents, studied at the National Archives Brasov County and from field investigations and measurements conducted in 2010-2012, using multiparametric sonde HI9828 Hanna. For comparison, were used and old photographs showing the development Rodbav Baths, in the interwar period or period of decline after 1980.



**Fig. 1. Rodbav Spa Resort – Geographical location and the distribution of mineral springs**

As methods, we mention indirect observation (studied old documents, cartographic materials, etc.), direct observation (mapping, describing the area studied), analysis and interpretation of data obtained in order to make graphic and cartographic material. GIS methodology (Global Mapper, Arc GIS, ArcWiev 3.2.) was used to make maps.

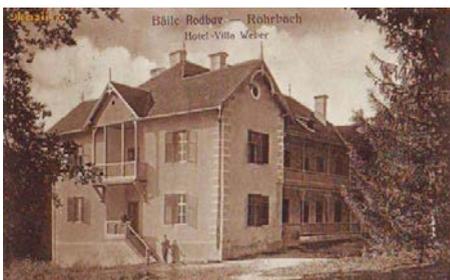
### 3. HISTORY OF RODBAV BATHS RESORT

The mineral waters in the area have been well known even since 1880, when a pool of mineral waters was dug. It had the size of 2 x 3 m and people used to have baths in it (National Archives, Braşov).

Between 1910 and 1911, another 7 m (Fig. 2) deep pool was dug which captured a bottom spring with a flow rate of about 6m<sup>3</sup> per day (Feasibility Study, 2005). After 1911, geological research intensified in the area, so that, in the year 1906, it appears under the title of “small resort “ (Saabner-Tuduri, 1906), and in 1971 with the title of a seasonal resort of local interest (Berlescu, 1975) including a spa facility, shower buildings, a pool, travelers for treatment who were accommodated in the main complex, in mansion houses (Fig. 3) or in locals’ homes for ambulatory treatment, they all benefited from the resort. In 1996 he was named permanent spa village of local interest (Berlescu, 1996).



**Fig. 2. A pool of mineral water (Source: Mereş Rodica)**



**Fig. 3. Rodbav Baths - Villa Weber, 1929) (Source: www.okazii.ro)**

The Rodbav Baths administration had been, in turns, the responsibility of different state institutions until the year 1988, when, by Decree 339, the touristic destination became the property of the County Union of Production Cooperatives of Braşov now Federalcoop of Braşov).

Later on, on January 19, 1999, a deed of conveyance was concluded between “Federalcoop” and “The General Direction of Penitentiaries” . It awarded G.D.P., both the ownership of buildings and the right to direct administration of Rodbav Baths (“România Liberă” 2006).

The administration of the Baths is currently the responsibility of the Professional Training and Recovery Centre for Penitentiary Personnel (PTRCPP) in Rodbav which was established by Order 1148/C of May 20, 2002 of the Ministry of Justice, as an installation subordinated to the National Administration of Penitentiaries.

#### **4. NATURAL THERAPEUTIC POTENTIAL**

The natural therapeutic potential is represented by two major components: the mineral waters and the bio-climate specific to the area.

##### **4.1. Hydro-mineral Potential**

The hydro-mineral potential of Rodbav Baths area is located in the loamy and clayey Samartien layers of sand as well as in the quaternary sands of Rodbav anticline axis. The mineral waters come from the mixture, in varying proportions, of layer waters with weeping water, as proved by the investigations carried out by the Institute of Isotopic and Molecular Technology of Cluj-Napoca concerning the environmental isotope distribution (Feasibility Study, 2005).

According to the Institute mentioned above, in Rodbav Baths area there are three complex aquifers. Each of them provided with multiple horizons, as follows:

1. the shallow complex aquifer, located roughly in the range of 14.2-22.7m consisting of sands and gravels generally clayey or loamy represented by springs F1, F2, and F3 (Fig. 1); it is an artesian aquifer with free flow rates of 0,39-6,03m<sup>3</sup>/day and pump flow rates of 7.43-34.21 m<sup>3</sup>/day;

2. the average depth complex aquifer, located roughly between 35.5-61.0 m and which is made up of three sand layers mostly clayey or loamy in the northern part of the resort, where it was captured separately by means of drilling areas F4 and F8; it is an artesian aquifer with free flow rates of 0.36m<sup>3</sup>/day and by pumping the flow can reach up to 20.7 m<sup>3</sup>/day. It was encountered and captured along with other layers of deep water in the southern part of the resort, delivering bicarbonate sodium water in the case of drilling area F5;

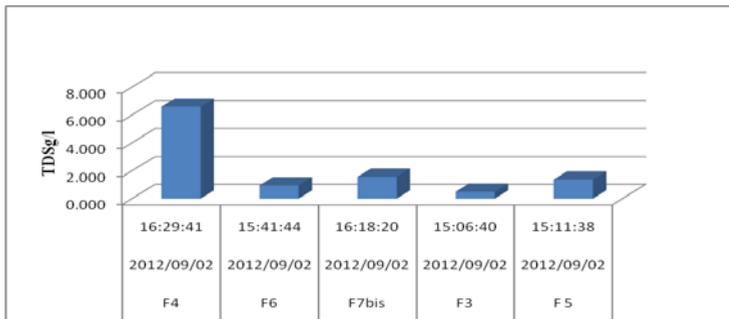
3. deep complex aquifer located in a depth range of approximately 105-172m, as it appears in the drilling area F5; it is located in the southern part of the resort being captured in drilling areas F6 (depth range of 108-138 m) and F7 bis (depth range of 108-135 m) both found in the northern part of the resort; it is an

artesian see also confined with free flow rate of 7.2 m<sup>3</sup>/day and pump flow rate up to 43.2 m<sup>3</sup>/day (Feasibility Study, 2005).

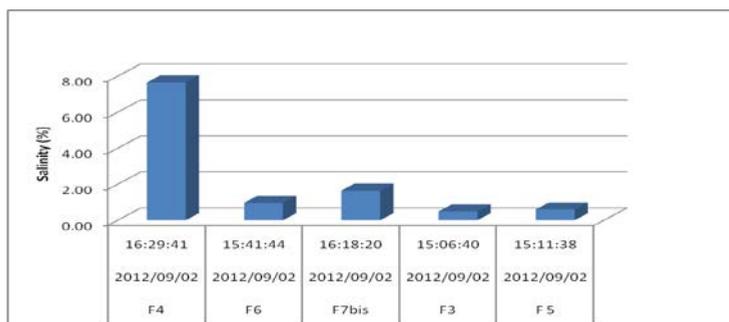
#### 4.2. Chemical Composition of Mineral Waters

The mineral waters of Rodbav Baths chlorosodic, iodurite and hypertonic mineral waters (Berlescu, 1975) which, according to the feasibility study, are located in the northern part of the resort, as well as sodium-rich bicarbonate hypotonic waters (Berlescu, 1996, which, according to the same study, are located in the southern part of the resort. In 2002, as part of the works for the license for exploitation of mineral waters from the baths perimeter, it was found that they could be maintained for continued exploration in drilling areas F1, F3, F4, F5, F6, and in 2003, the improper drilling areas F2, F7 were abandoned by cementing, while drillings F7bis and F8 were being performed (Feasibility Study, 2005). Between 2011 and 2012, a number of specific measurements: pH, ORP, TDS (g/l), salinity (%), DO (mg/l), were executed with help of multiparameter Hanna HI9828 in drilling areas F6, F4, F7bis F3 and F5.

Of the measurements made, it came out that the mineral waters of Rodbav Baths have basic characteristics, pH ranging between 6.39 – 8.32, a not very high degree of mineralization ranging between 0.492 – 6.602 g/l (Fig. 4), and the concentration of salt is between 0.49 – 6.65‰ (Fig. 5).

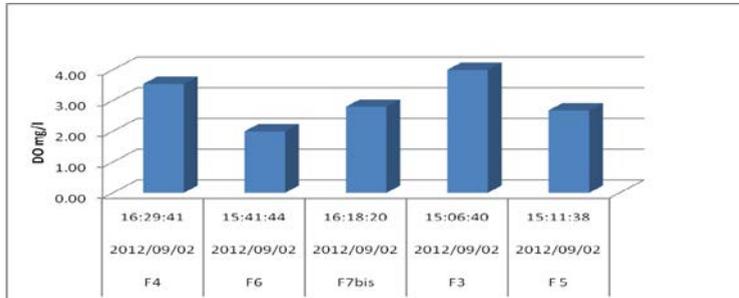


**Fig. 4. The variation of TDS in springs in Rodbav Baths**



**Fig. 5. The variation of salinity in Rodbav Baths**

The quantity of dissolved oxygen in water varies with atmospheric pressure, water temperature, the content of mineral salts and organic substances, etc. The measurements we made at springs F3, F4, F5, F6 and F7bis, indicate that DO (mg / l), varies between 1.69-3.82 mg / l (Fig. 6).



**Fig. 6. Dissolved oxygen concentration in springs in Rodbav Baths**

### 4.3. Bioclimate

Being located at an altitude of 467m, Rodbav Baths falls in the climate of intermountain depression, tonic-stimulant and mild, the average summer temperature being of 18.4°C and a relative humidity of 70-80% (Berlescu, 1975).

In terms of this type of climate, the effects of climatic factors upon the body are quite moderate; it is subjected to a great effort to adapt to environmental conditions (Ciangă, 2001).

## 5. IMPORTANCE AND EXPLOITATION OF THE THERAPEUTIC POTENTIAL OF RODBAV BATHS

The therapeutic potential of the area, can be exploited through activities specific to spa tourism and healthcare tourism in Resort Rodbav Baths (Fig. 7).

### 5.1. Spa Tourism

Spa tourism is based on exploitation of the mineral waters and therapeutic mud formed around the lake (Fig. 8). The chloral sodium-rich mineral waters of the site can be used to treat locomotor apparatus deficiencies, spine deviations, leg problems, hyperlaxity, capsular ligament instability as well as muscular-articular instability of children, teenagers and young people; they can also be used to cure difficult adaptation to thermal factors of the peripheral blood circulation, genital problems based on hyper-reaction, and pre-puberty problems of hyper-reactive children (Berlescu,1975). The therapeutic mud (mineralization: 1.124 g/l; FeS: 0.01g/l) can be used in body packing to treat locomotor apparatus disorders (<http://bioclima.ro/Namol.pdf>).



**Fig. 7. Spa Complex**  
(Source: Mereș Rodica)



**Fig. 8. Baths Rodbav, Mud area**  
(Source: Mereș Rodica)

After discussions with the Director of the spa complex resulted that the value of the natural curing factors is certified by the National Institute for Health Rehabilitation, Physical Medicine and Balneology as the body authorized to award such officially recognized certificates.

The effort of the ones who administer Rodbav Baths is worth mentioning. They are the staff of the Professional Training Centre for Penitentiary Personnel in Rodbav who have understood the importance of a spa resort and who are trying to create a strong, competitive facility, both locally and nationally.

By modernizing the spa complex of Rodbav Baths, there is the possibility of aero-helio-therapy, cold mineral water baths in the pool, hot mineral water baths in the bathtubs, electrotherapy, as well as the possibility of having a hard court, a multifunctional court, a club and a hall.

The average stay in the resort is of 5 to 6 days, which should raise interest in this area especially since a tourist coming here for treatment can be accompanied, during summer, by one or two people who can be included in different rehabilitation or maintenance programs or other touristic activities.

### **5.3. Healthcare Tourism : a New Perspective**

Healthcare, a field that will strongly develop in the future by creating new investigation methods, aims at an increase in the life expectancy of a people. A healthy lifestyle must be one of the principles of our society and, at the same time, a priority supporting this concept within the healthcare reforms.

The balneary treatment of Rodbav Baths will include, according at the concept of *healthcare tourism*, balneary cure as well as other treatments like spa, Wellness, etc. Additionally, KI-OM-LOGY, a new science of healthcare tourism, could combine the balneary treatment specific to the climate of Rodbav Baths with new ways of healthcare, of increasing creative, intellectual, emotional, and physical performance regardless of age. Balneary procedures, physiotherapy and climat cures can have side-effects which can be diminished by means of ki-om-logy, which stands as a remedial solution to those.

## 6. CONCLUSION

Rodbav Baths, located in an picturesque area, is an important natural therapeutic potential (mineral waters, therapeutic mud, mild hilly climate) which offers the possibility of various touristic activities.

However, exploitation of this balneary potential must get new connotations in the future by implementation of new modern views regarding types of tourism and touristic activities since such locations might be attractive not only to the elderly but to the youngsters as well, as they, too, want to have a better health condition.

Latest technology together with well-trained and up-to-date medical personnel will make it possible for Rodbav Baths to stand against all challenges, ensuring treatment at European standards to all tourists visiting the resort.

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