The Promotion of Geomorphosites on Salt from Sovata–Praid and Turda using Cultural – Scientific Tourism

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Abstract. The Promotion of Geomorphosites on Salt from Sovata – Praid and Turda using Cultural – Scientific Tourism. The paper highlights the role of geomorphosites on salt, in experts and specialists training, in geography of tourism and planning, namely, the involvement of educational factor in defining managerial and marketing skills of future specialists in training. Geographical area of investigation belongs to the Transylvanian tectonic basin, overlapped to saliferous tectonic area from eastern Transylvania, represented by Praid – Sovata – Corund anticline and Sic – Cojocna – Turda anticline, analysis is focused on the Praid – Sovata and Turda diapirs.

Saliferous area Praid – Sovata – Corund is situated on the contact area of the Transylvanian Basin with neo-eruptiv mountain chain of Eastern Carpathians, Calimani – Gurghiu – Harghita, and at the contact of Târnavelor Plateau with the orogen alignment of Gurghiu – Harghita Mountains. The salt body, in the horizontal plane, has a quasi-circular shape, slightly ellipsoidal, with diameters of 1.2 and 1.4 km, and is estimated to have a burial depth of 2.6 to 2.8 km. The salt massif from Praid, pierce the Mio-Pliocene blanket around and appears at the surface as diapir, flanked by sedimentary rocks that are partially covered by extrusive post-Pliocene volcanic formations and Quaternary deposits. Evaporitic deposits presents a varied lithology represented by gypsum, anhydrite, salt rock, potassium salt and celestine.

The salt massif from Turda develops on the anticline Sic–Cojocna – Turda, oriented NE – SW, 2 km NE of Turda's downtown. It has an elongated shape, about 4 km, with widths ranging from 700 m to 200 m and also with a thickness ranging from 750 m to over 1000 m. In terms of stratigraphy, the salt massif is surrounded by deposits belonging to Badenian, Sarmatian and Quaternary.

Due to salt dissolution by meteoric waters, carsto-saline lakes were formed, and due to ceiling collapse, because of an intensive exploitation, and infiltrations of rainwater and rivers, antropo-salted lakes were formed. The water and mud of these lakes are used for external treatment. The holes resulting from exploitation were arranged and turned into treatment rooms for those affected by respiratory diseases.

Localities Praid and Sovata from rural settlements, have become balneary resorts, that use these salt resources by multiple forms of tourism: spas, climatic, cultural, recreational and scientific.

In Turda has developed both health, climacteric and recreational tourism, as well as cultural and historical tourism, given the historical relics that are housed here.

The design of applicative segment of geomorphological sites on salt recovery, through tourism activities is the objective of our work. Methodological argumentation is supported by the objective motivation, of geomorphosites on salt capitalization, by the content of syllabus and specialization of geography of tourism and territorial planning, from the Faculty of Geography, Babes-Bolyai University from Cluj-Napoca. The syllabus content argues the need for knowledge of geomorphosites genesis, their morphology, touristic valences, urbanistic valences, and the possibility of recovery, through forms and types of tourism, namely, urban, agricultural, industrial forms and types of exploitation.

Key words: salt, geomorphosites, Praid, Turda, tourism

1. Geomorphosites Location: Praid, Sovata, Turda

Saliferous structures Praid, Sovata, Turda are part of the Transylvanian Basin Neogene molassic areas (Figure 1). Salt tectonic in Transylvanian space is materialized in diapiric anticlines and synclines who are disposed in Transylvanian Basin circumscribed relays. Praid-Sovata structure belongs to eastern diapiric region and Turda belongs to western diapiric region, both being strong tectonized structures, diapir presenting the shape of a solid pillar of salt.

Sovata Basin is a depression developed on the axis of a diapir anticline and results from the epigenetic deepening process of Târnava Mică Valley and its tributaries in anticline fold. Sovata resort has a spectacular hilly relief and is bordered to the west of Bichiş hill (1080 m), which along with Firtuş and Şiclod hills are part of a line of hanging synclines. To the north is bordered by Cherry Hill (912 m) and to the east by Elah Hill (649 m). These hills are dominated by Saca Mountain (1777 m) which belongs to Gurghiu Mountains.

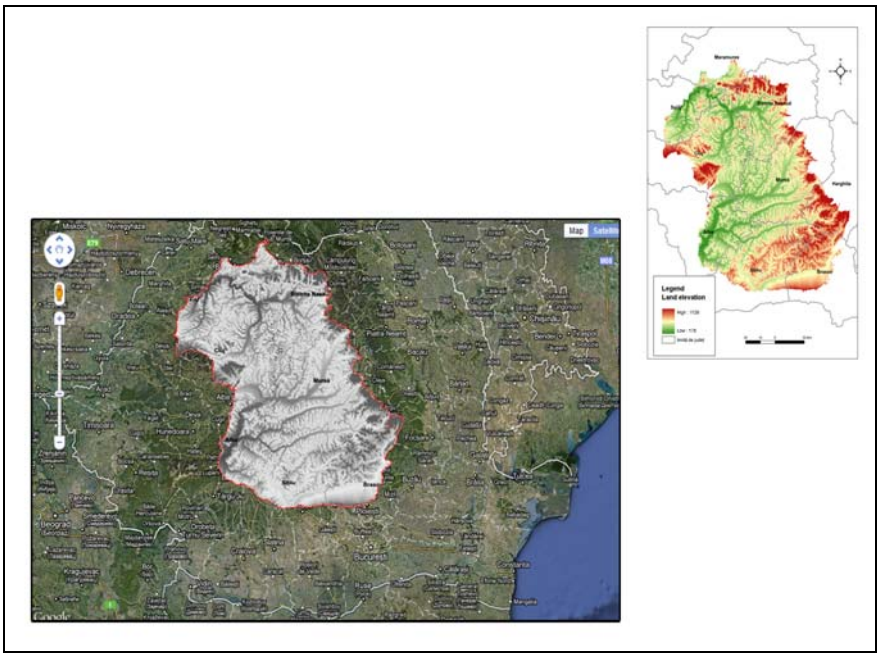


Figure 1 Transilvanyan Basin

Praid Basin is around Salt Hill. Basin has a triangular shape whose top, in the south, is oriented to Corund village, and in north and west merges with Sovata basin. Praid Basin is separated from the rest of the Transylvanian Basin by the peaks line Sălaş-Firtuş (1062 m), Fiasmál (983 m), Stone Cuşmedului (991 m) and Stone Şiclodului (1025 m). Salt Hill, in local name "Salt Back" (576 m), covers the largest salt deposit in the country, whose "roots" are buried up to 2.7 to 3 km deep. Altitudes in the Praid village area are between 460 m, Târnava Mică thalweg, and 681 m, Raspberry Peak, south of Salt Hill.

Turda Salt Massif - on the back of which are salt lakes - is placed in the western point of the Transylvanian Depression. It is in the area immediate neighbor of the Apuseni Mountains block, contact with the sedimentation basin. Investigated area, belongs, from the tectonic point of view to the strip of symmetrical anticlines and synclines, oriented north-south, which correspond to mobile-area Turda Depression (M. Bleahu, M. Lupu, 1963) located in contact with Trascau Mountains. Two arching more significant marks the Turda salt massifs: the salt massif from "Salt Baths" is incorporated to the anticline which passes through Turda's town center, in the direction of Ploscoş locality, and "Ocna's" salt massif belongs to Mihai Viteazul – Salt Stram anticline structure.

2. Genesis and salt tectonics

Salt, according to the lagoon model proposed by Mircea Paucă (1967), is Badenian – Wielician age and comes from the seas lying to the external curvature of the Carpathians (Figure 2), from where it entered inside the Transylvanian Basin. A circular current, more or less continuously, has been made. Extra - Carpathians sea waters entered in the Transylvanian Basin over the curve (Figure 1), and the return current has been made through the Turnu Roşu - Cozia region, creating a zone of discharge in Govora, in north of Getic Platform. Separation of salt from other evaporites, is explained by the presence of intermediate lagoons (small dimensions) from the curve (Figure 3). These "fulfill the role to retain from the sea waters, at concentrations still low, but high temperatures (which could reach shallow waters), calcium and magnesium carbonates" less soluble and thermophilic "and deposited them in the form of dolomites" (Paucă, 1967).

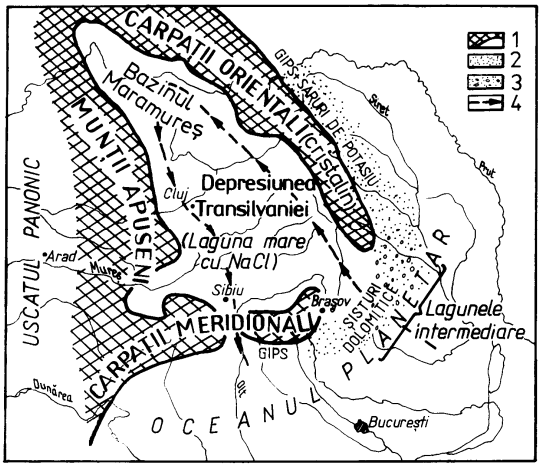


Figure 2. Circular current diagram, carrier of potassium and magnesium salts (after D. Ciupagea et al., 1970)

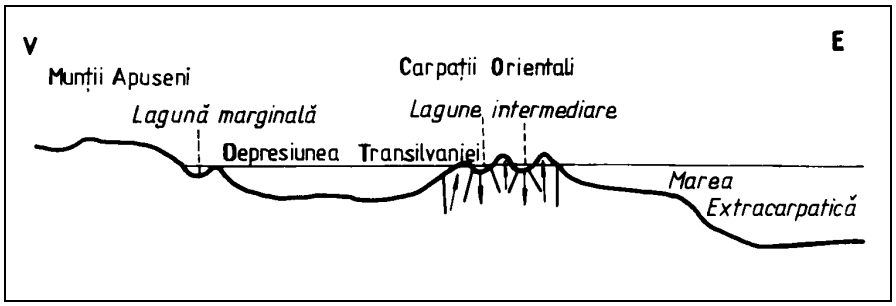


Figure 3. Intermediate lagoons configuration (after M. Paucă, 1967)

Therefore, in Transylvanian lagoon, reached waters loaded with sodium chloride and complex potassium and magnesium salts. These waters, which in intermediate lagoons reached temperatures of 70 °C, as they entered in the Transylvanian lagoon has cooled and deposited only rock salt, which is a cryophil mineral..

The deposition of salt went unevenly, across the Transylvanian Basin, depending on the variations of the salts saturation degree of the water, on the input of terrigenous material and seasonal variation of climatic conditions, aspect showed by the alternation rhythm of the pure white salt strips and gray salt strips. Pure white salt, corresponds to a sedimentation made due to a warm climate, arid, and gray impure salt, corresponds to seasons of heavy rainfall and intense input of terrigenous material.

Rock salt, describes the full range of shapes, from weak lens and embryonic folds (central and north-western basin) to the "violent" ones, with the breakdown seeds in diapir peripheral areas (figure 4). Between primary stage not tectonised (horizontal), and proximal stage (diapiric) the salt packages elevation, distinguish a wide range of morphological types (large folds, lens, blades, apophyses, arches, columns, mushrooms, domes, etc.). Salt horizon thickness varies between 1300 m at Brâncoveneşti and 1480 m at Praid.

Salt movement is explained by the fact that it (specific gravity 2.15) is lighter than rocks (clays, sandstone, tuff, sand, limestone) that covers the layers of salt (specific gravity 2.3 to 2.4). It possesses plastic properties and it's moving in sectors less loaded with sediment, causing thickening of salt layers (anticlines, brahianticlines). Continuous accumulation of salt in these sectors leads to massif and columns salt formation or salt pillars (vertical cylindrical bodies) which penetrates the sedimentary complex of rocks above.

The diapirism due to the high plasticity of salt, depends on the amount of salt massif and on the thickness of deposits above. The diapirism involves a slow decompression phase, which accuses a stage of proximal diapirism, with significant elevation of millimeters. Decompression stages are associated to isostatic decompensation phenomena.

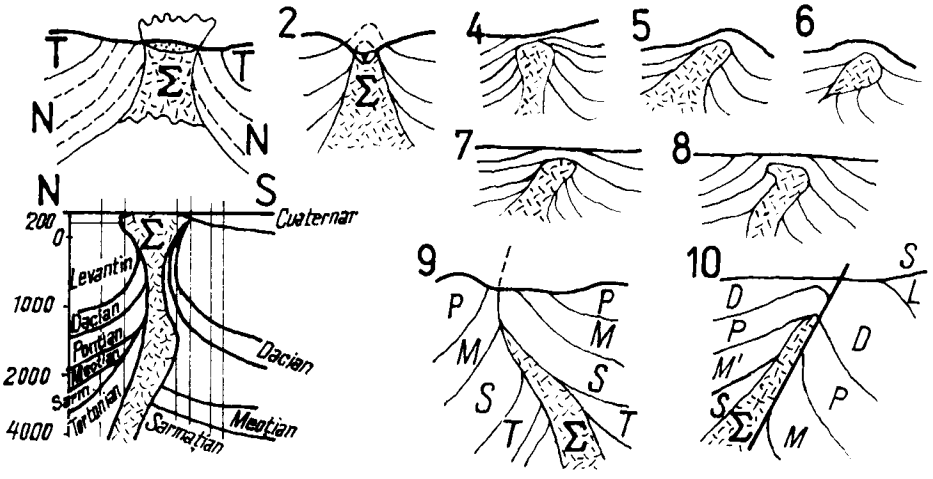


Figure 4. Diapir types (after V. Dragoş, 1982)
1-3. open diapir massif or stock type; 4, 5, 7, 8. embryonic anticline folds; 6. Salt lens; 9, 10. Crypto-diapir (faulted 10).

Differentiated manifestation of the tectonic diapirism in the Transylvanian diapir folds is reflected in their regional tectonic types: *salt massifs, anticlines and synclines elongated diapirs, short isolated anticlines and synclines, salt lenses.*

Salt massifs are localized in the east and west of the basin, in an intense fold areas. The diapir anticlines vault, placed in the wings or in the relay and rebuilt, presents the character of the open and pierced diapir folds. The emergence of these salt massifs or stocks is linked to a higher mobility of the foundation along regional faults (figure 5), which marks the connection between the cuvette and the monoclinal area border: Praid, Sovata, Sărăţeni, Sic, Cojocna Turda, Ocna Mures, Ocnişoara, Ocna Sibiu.

Elongated anticlines and synclines, have a great asymmetry of the flanks and slopes between 23° and 90°; they have broad representation in virgaţia Somes Mare, in Eastern, southeast, southwest and northwest fascicle.

Isolated short anticlines and synclines with the tendency to shift to the brahistructures are present both between the main anticlines and synclines lines and outside the relay or diapir fascicle, usually presented as isolated folds: Unguraş – Fizeş, Strugureni, Beclean – Apatiu, Sînmiclăuş, Sîncel, Feldioara, Şomîrtin, etc.

Salt lenses, present in Ocna Dej and Jibert shows the characters of salt lithogenesis period.

Diapirs folds from Sovata, Praid, Turda are presented as salt massifs pushed to the surface by rolling and by piercing the couverture to the Pontian deposits.

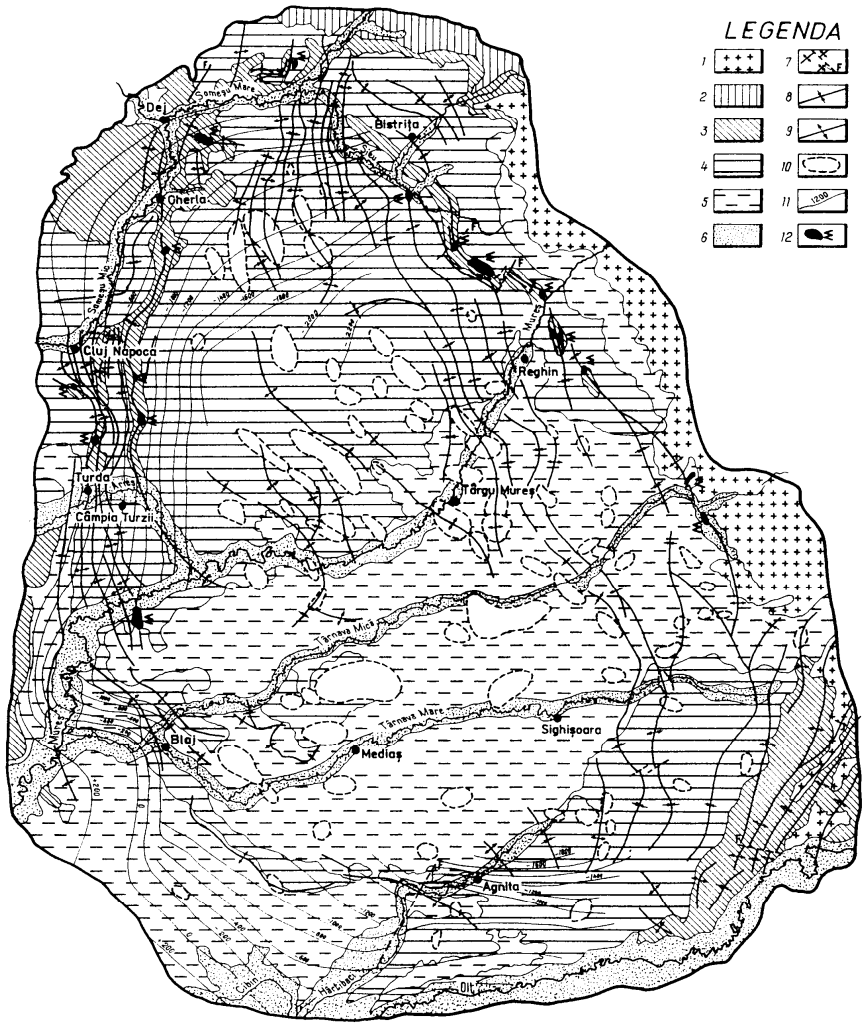


Figure 5. Transylvanian Basin. Geological map:
1. volcanic agglomerate plateaus; 2. Helvetian deposits; 3. Badenian deposits; 4. Sarmatian deposits ($vh+bs_1$);
5. Pannonian deposits; 6. Cuaternary deposits; 7. faulted anticline and synclinals ; 8. diapire synclinales; 9. diapire anticlines; 10. Dom structures perimeter and brahianticline ; 11. Dej tuff bathymetric; 12. salt massifs

3. Saliferous areas morphology

The occurrence of salt to the surface, condition the appearance of salt microrelief: clints and dissolution micro- sinkholes. Subsidence phenomena associated with the dissolution, generates a typical karst landscape on salt (clints field and sinkholes from Salt Bath - Turda, clints fields on salt massifs from Praid and Sovata).

Sliding formation meets, in diapirs folds area, processes and forms resulting from derosion, soil flow, mud flows and landslides (furrows and lens).

Layers alternation of marl and clay, with sand (in thick layers) and intercalation of layers more resistant to erosion (sandstone, andesite and dacite volcanic tuffs, limestones), have resulted in highly differentiated morphology, and a "fragile" balance of the slopes, showed since the Pleistocene, through the deep landslides, glimee type (Subatlantic). These landslides are part of Transylvania geomorphologic landscape by the frequency of affected areas (cca. 750) and by association of the landslides type glimee with Sarmatian, Pannonian sedimentary formations, or on the lithological contacts of Sarmatian-Pannonian, Sarmatian-Badenian.

Specificity and prevalence of sliding processes in Transylvanian depression, have led to the identification of the process with the type of slope: Saschiz type (Gârbacea, 1964), slope type Măgherani (Tövissi, 1970) and slope type Goagiu (Mac, 1970).

Landslides from Pleistocene-Holocene, have created the development premises of the current morphodynamic processes by creating a wide range of forms that have changed the slope (slip valleys, magnifiers,fake-solifluction and glimee) and its profile (convex and concave alternating sectors). Most areas with landslides, confirms the deposits structure convergence, neotectonics (including diapirism) and climate.

Contemporary morphodynamic is printed by the surface erosion, mass movements and riverbed erosion. Pluvio-denudation, gullying, suffosion, compaction, subsidence, slumps and landslides, river erosion, shapes the salt massifs and the diapirs folds. Torrential, attacks regressive the structure (Figure 6, Salt Hill, Praid), developing small torrential basins, and the control is accomplished from local erosion bases (v. Corundului, v.Târnava Mică). This action is combined with landslides, runoff, suffosion and compaction on the salt massif which appears on the surface. The dome shape under which appears today, reveals the tectonic dominance on the exogen.

Longitudinal profiles of rivers crossing the diapir region Sovata-Praid appears as a slightly concave curve which is marked from place to place by the break of slopes (I. Mac, 1972), that are attributed to lithological differentiation (Figure 7) respectively the transition from volcanic agglomerates deposits to Pannonian (sands, clays, marls) and Sarmatian deposits (marls, clays, sandstones, sands).

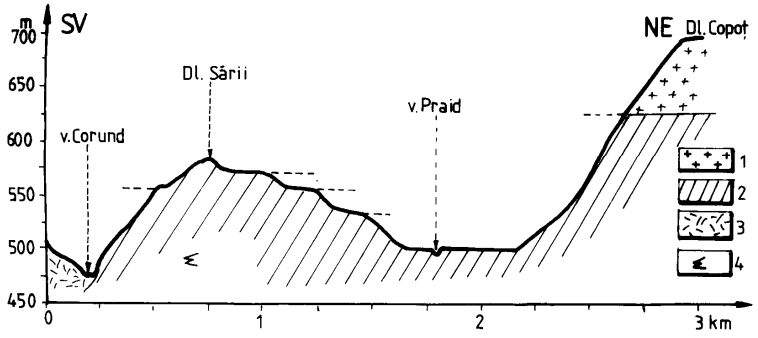


Figure 6 . Geomorphologic profile across the Salt Hill (Praid)
1. Volcanic agglomerates; 2. Pannonian deposits; 3. glacis; 4. salt

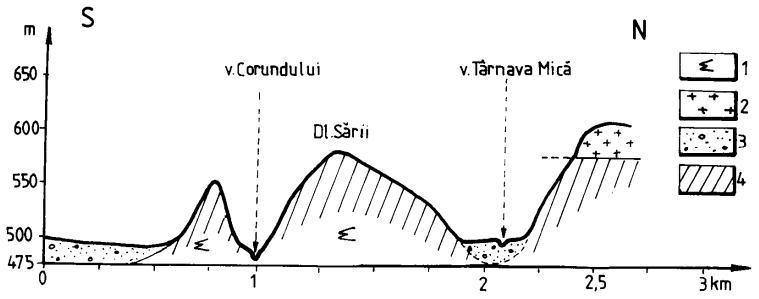


Figure 7. Geomorphologic profile across the Corund Valley and Târnava Mică Valley 1. salt; 2. volcanic agglomerate; 3. Cuaternary deposits; 4. Pannonian deposits

Current modeling process outlines the mechanisms and the work manner in relation to the "inherit" periglacial features, drawing morphodynamic complexes. On this “inherited” matter of the periglacial slope, in a state of relative morphodynamic equilibrium, is still evolving or outlines: derosion "beds", soil-flow magnifiers or shallow landslides, channels, ravines, torrential. Slopes evolve under the incidence of sliding configurations action, runoff, gullying and torrents. Action rate varies according to the morphogenetic potential of the salt massif. Landscapes that are frequently associated in the salt massif are landscapes of lenticular landslides, soil flows, mud flows (Turda, Praid, Sovata) and compaction. On the "day" diapir is modeled erosion clints or small sinkholes (Fig. 8 and 9). Washing of salt by precipitation accelerates flysch deposits mobility.

Figure 8 and 9. Clints and sinkholes on salt

Salt massif from Sovata presents a diversity of morphological shapes among which it is noted lacustrine depressions caused by tectonic-anthropogenic causes (now occupied by the large salt lakes: Bear, Black Ariniş); sinkholes on salt (partially occupied with water coming from precipitation) or torrential bodies (Snake Lake, Green Dolina). A similar morphology has the salt massif from Turda. The fall in levels after local fractures of old mines ceiling (Turda, Sovata) has facilitated the development of large depressions "paved" with thick clay horizons, which facilitates the meteoric water accumulation, conditioning the occurrence of ponds in the area of sinkhole dissolution micro-sinkhols (Salt Bath - Turda), or even freshwater lakes: Green Lake, Aluniş Lake. Formation of lake complexes, on torrential valleys tributary Sovata Valley, involves a complex genetic mechanism: tectonic diapirism accompanied by local fractures, dissolution, anthropogenic impact as salt exploitation. Salt massifs from Sovata and Praid are affected by natural dissolution, which leads to the appearance of a carsto-saline relief: sinkholes, clints, potholes, natural bridges, winding valleys and caves.

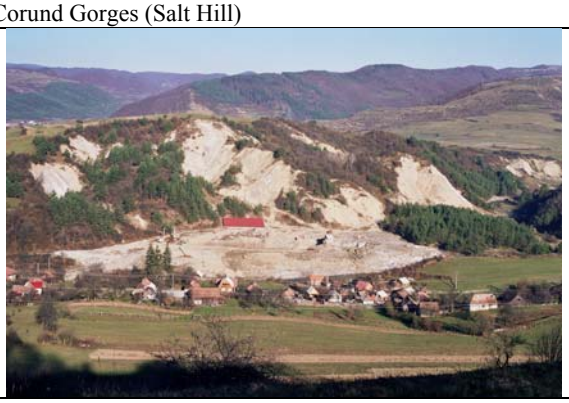
River morphology, express areas differences in relation to salt massifs position and diapir folds orientation, antecedent or epigenetic character of the valleys. Corund Valley upstream of Salt Hill (Praid) has a slope of the riverbed of 2.5 m/km and meanders coefficient is 2.06. Downstream, the riverbed slope of Corund river, increases to 20 m/km and meanders coefficient is reduced by half, 1.1. These morphometric indices, are reflected in the morphology of the valley by the genetic characters of terraces, their numbers and natural setting. Upstream are carried out two steps of terraces poorly differentiated altitude (0.40 to 0.80 m), and downstream of Salt Hill with the confluence of Târnava Mica Valley are recorded four steps (t1, t2, t3, t4) of successive terraces. Upstream terraces, are presented as incorporated teraces, the latest (from the two levels) enrolling in the oldest, as the reduction of neotectonic movements amplitude (diapirs lifting). They were formed due to the diapir pushup movements, simultaneous with the raising of the alluvial bed of Corund Valley and alluvial accelerating.

Valleys (Sovata Corund and Praid) alluvial strongly behind salt massifs, widen, developing enlarged depression basins (Sacadat, Praid, Ocna de Jos). Large width of the valleys is also emphasized by transverse profiles. Thus Ocna de Jos, Corund Valley, records 4 km wide, and in the cross section of diapir, takes an aspect of a "canyon" valley, of a few meters (10 to 15 m).

Toponyms (Sarățeni, Sărata), oronyms (Salt Hill) or hidronyms (Salt Valley, Salt Lake, Salt Pond) are common in saliferous areas, beeing arguments of cultural sustainability and salt civilization in this region.

4. Geomorphosites on salt

Name	Corund Gorges (Salt Hill)
Indicative	S1
Location	Corund Valley, Gurghiu Mountains
UAT	Praid Town, Harghita District
Tipology	System – Gorge Geomorphosite
Extension	Linear
Total Value	24.25
Structural Value	10.75
Functional Value	12.75
Restrictive Attributes	0.75



STRUCTURAL VALUE		
TYPE	POINTS	JUSTIFICATION
Geomophologic	6	- In the geomorphosite genesis were involved at least four factors: tectonic, lithologic, climatic and hydrological, in the three phases of its evolution (salt deposit, increasing salt and formation of keys) (1 p) - Moderate dynamic, noticeable (0.75) - Brings together more than 5 elements of geomorphological interest: clints, sinkholes, disolution valleys, salt lakes, caves and mud lakes (1 p) - Standard geomorphosite for the region, due to physiognomy and size (has a depth of burial of 2.8 km) (1 p) - Geomorphosite strongly affected by natural processes and anthropogenic intervention (0.75) - Geomorphosite, unique regional (0.75) - Interesting structure (0.75)
Aestheti cs	2.25	- Has a unique physiognomy due to the formation, geomorphological processes and the surface exploitation (1 p) - Has a special chromatic by mixing colors of rocks, vegetation and water (0.75) - Can be perceived panoramic (0.5)
Ecological	2.5	- Presence of halophyte plants: Limonium Gmelin, "flower of salt", purple, Salicornia herbacea (purple or green salt grass), Aster tripolium (Autumn Rose), Spergularia salina, Salsola soda (salt grass), Artemisia saline (salif wormwood), Plantago maritime and Static Gmelin (salt flower) (0.75) - Presence of fauna biotopes, rare on a regional scale (0.75) - Is a fully protected area - Reserve "Land of Salt" (1 pct)
FUNCTIONAL VALUE		
TYPE	POINTS	JUSTIFICATION
Cultural	2	- Representation in art, most in photos and photo albums (0.5) - In areas of the perimeter, are held at least two annual cultural events (1 p) - Traditional architecture, specific Szekler land (0.5)
Scientific	4.5	- There are at least two scientific theories about the genesis and evolution of form through epigenesis (1 p) - Has disclosure potential recognized by bibliographic citations in reference works dedicated to salt resources in the Transylvanian Basin and genesis of Transylvania Depression (1 p) - With polyvalent addressability in the field of Geography and Geology (1 p) - National representation (0.75) - Model with an indicative value (0.75)
Economic	6.25	- It can practice at least four tourist activities: hiking, spas activities, geotourism, ecotourism (1 p) - Is a top tourist attraction at the regional level, because of its attractiveness potential (1 p) - Car access is possible close to 300 m (0.75) - Has many accommodation bases in the area, especially in Praid and Sovata (1 p) - Distance of 2 km from Praid, 8 km from Sovata and 25 km from Odorheiul Secuiesc (1 pct) - Distance of 25 km from the center with urban services (Odorheiul Secuiesc) (0.5) - Complex promoting, sustained at national level, but also international dedicated especially to Hungarian tourists (1 p)
RESTRICTIVE ATTRIBUTES		
POINTS	JUSTIFICATION	
0.75	- Uncontrollable risks such as subsidence, extensive dissolution (0.5) - Site is vulnerable without being affected overall (0.25)	

5. Touristic recovery of geomorphosites on salt

Scientif-cultural tourism associate in diapir regions an acculturated landscape, where the traditions, habits and Catholic monastic attitudes, Roman Catholic, Greek Catholic, Orthodox, Calvinist, Protestant, Evangelical, etc., converging deterministic to meet the local community interest and welfare. Salt exploitation and marketing, have their beginnings in the Daco-Roman period. Along with the exploitation of salt deposits the salt spring water is also harnessed in cooking (cooking and food preservation).

Cultural landscape highlights the cultural values of this area, values that are closely related to economic development and social maturity of diapiric Transylvanian geographical area. Monastic habits and attitudes (annual and seasonal: religious or events related to nature, familyal and behavioral: receiving guests, inclusion in the adults community or local community), architecture and architectural landscape, cultural events (music festivals, film, sculpture, painting, congresses and meetings of science and art), confirms the close link between natural resources of salt geomorphosites, salt culture and civilization, as existential forms.

Among these customs and religious traditions are "Advent" is a kind of lent of the Christmas and marks "coming of the Lord", then on December 13 is celebrated "Saint Lucia" which has several meanings: weather prediction for next year, casting evil spirits, and finding Fates for unmarried girls. Another tradition is "Farşangul" which is celebrated before Lent entrance, and which drives away the winter, is a celebration of masks and a practice that allows excess before entering the Lent.

In the second day of Easter, is in this region the "watering" habit when the boys go to girls of their age and their relatives and wet with perfume, saying before a poem, then are rewarded with painted eggs. Other customs and traditions of these areas, not necessarily religious, are vintage, which is a big celebration each fall, the International Festival of stuffed cabbage (Figure 10), which is celebrated every year between 23-25 September in Praid and Snow festival in Sovata that is held annually in February.

Sovata's treatments have become famous all over. The resort is indicated for gynecological diseases treatment (ovarian insufficiency, chronic cervicitis, chronic metrosalpingitis, impotence) and for degenerative, inflammatory and rheumatic diseases (cervical, dorsal and lumbar osteoarthritis, poliarthrosis, joint pain, tendinitis, tendimiosits, scapulohumeral arthritis) post-traumatic conditions (after healed operations on joints, muscles, bones, dislocations and sprains), diseases of the peripheral nervous system (slight paralysis, sequelae of poliomyelitis, polyneuritis), endocrine disorders (hypothyroidism, after endocrinological treatment), cardiovascular disease (ulcers, acrocyanosis).

Figure 10. Festival of stuffed cabbage

The resort has multiple facilities, for warm baths in a tub or pool with salt water taken from lakes, for gynecological treatments and mud hot pools for physiotherapy, electrotherapy and hydrotherapy facilities, saunas, medical gyms, beaches on the Bear Lake and Aluniş Lake.

Methods of treatment:

1. Salt-water baths done in the tub, in the pool, in Bear Lake and sitz baths.
2. With mud and vaginal swabs
3. All forms of physiotherapy, electrotherapy, thermotherapy, water treatment and phototherapy, massage, medical gymnastics, outdoor walks.

The Bear Lake schedule is between 10 AM - 18 PM, with breaks between 13 PM -15 PM. In this pause, bathing is forbidden, because the lake takes several hours of rest to avoid losing property.

In Praid, salt baths are done in the basin, built near the salt mine, which is fed with salt water from the mine, which is an infiltration meteoric water and who acquired salinity by crossing the mountain of salt, and stationing in the underground sump. Treatment with warm baths in the tub, is done also in Praid and it consists of 10 to 30 min of bath and obligatory 30 min of rest in the rest room properly equipped with beds. The objective of salty baths spa operates seasonally, during the June 1st to October 15th, annually, and is open daily from 10.00 - 20.00, seven days / week.

Praid resort is famous for the climacteric treatment with aerosols in the Praid Saline, which is

open all year. Treatment is for people who suffer from respiratory diseases (asthma, bronchitis and allergic).

Treatments that are made in Turda are: the climacteric treatment with aerosols in the Turda salt mine, which is open all year and the spa in salt lakes from the salt mountain, which are accessible only in summer.

Field applications (figure 11) are scheduled in the curricula of geographer students, at license degree level, for all lines of study (Romanian, German, Hungarian) and specializations: Geography, Tourism Geography, Territorial Planning, Cartography, Cadastre and Land Measurements. Field application take place in 1st and 2nd year, in two stages differentiated as problematic, and is credited each stage with 3 credits respectively 6 credits per year, from a total of 60 credits.

Figure 11. Field applications

The first stage is identified with a field application of 5 days on a route determined in advance by the Professor and his collaborators (lecturers, assistants, PhD), based on the topics covered in geomorphology (dynamic geomorphology, climatic geomorphology, applied geomorphology, engineering geomorphology), tutorials, workshops, laboratories. The second stage is carried out of a period of 10 days, in the practic base of the university or college and seeks validation of theoretical knowledge of an academic year in one or two major themes: dynamic of the geomorphosites on salt, riverbeds morphodynamic in saliferous areas, slopes morphodynamic in Saliferous areas, tourist recovery of the geomorphosites on salt, tourist recovery of the salt lakes, tourist recovery of the karsts geomorphosites, recovery of the mountain landscape resources, etc. Preparation of field applications, involves research orientation to the demand or supply of local or regional beneficiaries, solving problems of seminars, laboratory, but also an offer of services to third party beneficiaries: local or regional administrations, ministries (transport, tourism, culture, etc.).

6. Conclusions

Recovery of geomorphosite on salt by scientific – cultural tourism, requires geomorphosites identification, morphological analysis of the sites, identifying the valorisation and exploitation opportunities in touristic and scientific interest. The local customs include Knitting Hats (Figure 12) from Crişan, Pottery of Corund (Figure 13) and regional habit is Carved Gates (Figure 14).

Figure 11. Knitting Hats

Figure 12. Pottery of Corund

Figure 13. Carved Gates

Scientific tourism is not perceived as a form or type of tourism, since it does not assume rest, relaxation, pilgrimages, etc., instead, according to WTO (1978), the tourist is any person "who is outside his current residence for at least 24 hours (or overnight) and for maximum four months, because of the following reasons: entertainment (vacations and week-ends), health (termalism, thalasso therapy) missions or meetings (congresses, seminars, pilgrimages, sporting events, etc.), business travel, educational travel, etc". Applying these explanations we consider that scientific meetings (congresses, symposia, seminars, workshops), business travel and school travel, particularly academic field applications are specific cultural tourism and scientific activities.

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