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THE CURRENT SITUATION OF PROTECTION AND CONSERVATION OF THE COLÔNIA IMPACT CRATER, SÃO PAULO, BRAZIL

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Abstract: Nature conservation, sustainable development and the consequences of environmental degradation are central themes in debates about the future of humanity. From a sustainability perspective, reconciling the tense relationship

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between economic growth, quality of life and ecosystem preservation is becoming increasingly difficult. This paper presents a holistic approach to the socio-environmental problems of the Colônia impact crater. The efficiency of environmental protection measures, the feasibility of management programs and the political platform for sustainable development are the main issues discussed. The data reveal a high risk of increasing environmental degradation and worsening regional disparities. The implementation of geotourism, mainly via educational trails, landscape photography and agro-tourism, is one of the most favourable alternatives for social and economic development in the region. Such a project should be developed with broad participation from the local community and with an active and permanent policy management.

Key words: Colônia impact crater, Nature preservation, Sustainable development

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INTRODUCTION

The Colônia impact crater lies in the southern zone of the São Paulo Metropolitan Region and covers an area with a large number of water catchments at the south-western edge of the Billings hydrographic basin (Figure 1). This prominent ring-like structure has attracted the attention of many researchers over the last several decades (Kollert et al., 1961; Riccomini et al., 1989; Neves, 1989).

Figure 1. The Colônia impact crater within the Billings hydrographic basin. Inset: the South American illustration of the Arid Ocean Map (source: adapted from Velázquez et al., 2014a)

Apart from its extraordinary scientific relevance for geological, biological, palaeoclimatic and palaeoecological research, the natural elements of the crater provide

favourable conditions for a wide range of educational activities that could be developed with students of different academic levels (Velázquez et al., 2006; 2008). The crater is also a stunning site for the practice of geotourism, and the community may undertake diverse outdoor leisure activities in a pleasant tropical climate provided by the remaining Atlantic Forest (Souza & Velázquez, 2008; Valderrama, 2010).

It is worth mentioning that Ries, in Germany, and Colônia, in Brazil, are the only two peopled craters of 188 impact structures catalogued in the Earth Impact Database (PAASC, 2015). The Ries crater is the site of the first geopark in Bavaria; the geopark covers 1800 km² and includes five different counties with 53 communities, making it the world's most populous geopark (Stöffler et al., 2008). The Colônia crater occupies an area of approximately 10.2 km² and was declared a Geological Monument by the Council of Geological Monuments of the São Paulo State (CoMGeo-SP) in 2009. The crater currently has approximately 45,000 residents, including besiegers, smallholders and an extensive, irregular urban settlement. The accelerated growth of urbanization and the expansion of agriculture in the region have led to a considerable reduction in vegetation.

Given the need to put an effective preservation program into practice in the crater region, conducting a detailed analysis of the current environmental situation to produce a document that provides simple, useful measures to reduce the risks of degradation was considered appropriate.

The scope of this process also included encouraging the local community to be an active participant in programs that prioritize economic growth and social equality without endangering local geological and biological diversity. Conservation of this region's NATURAL HERITAGE is strongly recommended to ensure the continuity of several studies and optimize its use in education and tourism (Velázquez et al., 2014a).

CONCEPTUAL FRAMEWORK AND PRACTICAL IMPLICATIONS

In the traditional approach of nature conservation, the biological diversity has usually received more attention to the importance of sustainable management. The geological records, however, are indispensable elements that should also be brought into account where the theme includes environmental planning and sustainable development (Brilha, 2005). In this context, since the early 90s, the International Union of Geological Sciences (IUGS) and UNESCO have been promoting a systematic cataloguing of geological with particular interest. This initiative has as main objective to promote an exceptionally broad disclosure of the geological features, which bring together a high potentiality for science, teaching activity and leisure time (ProGEO, 2011). In recent times, it is remarkable the significant increase in the number of research groups that devote their activities to this new investigation segment in Brazil.

Nevertheless, terms such as geodiversity, geological heritage, geoconservation, geopark and geotourism, highly widespread in northern hemisphere countries (Newsome & Dowling, 2010; Farsani et al., 2012, Adriansyah et al., 2015), have not been fully integrated into the national academic literature. Likewise, the factual benefits of conservation programmes are still very isolated and, sometimes, geological sites that have been duly recognized not receive the deserved care (Barroso, 2013). As previously pointed out by some authors, geological elements are natural heritage and should also be capitalized as the archaeological and cultural patrimonies, considering that these records are the lasting memory of the long evolutionary story of our planet (Sharples, 2002; Brilha, 2005; Brocx & Semeniuk, 2007; ProGeo, 2011). In this sense, geotourism has often been cited as a possible option to improve the usage of geological sites and encourage the practice of environmental preservation (Hose, 1995). Although the term "geotuorism" has provoked controversy regarding to the definition (c.f. Arouca

Declaration in https://dl.dropboxusercontent.com/u/36358978/News/Declaration_Arouca_%5BEN%5D.pdf), the environmental and social benefits arising from this new modality of tourism for the local community are unquestionable. As empathised by Lazzari & Alloia (2014), this tourist activity, when it is well-planned and organised, can "to facilitate public interest in geotourism, geoscientists, government agencies, communities, and other stakeholders must collaborate to sensitize the public, develop, and preserve these national patrimony/heritage sites for teaching, training, research, sustainable development, job creation, environmental conservation, and exploration of alternatives to traditional exploitation/uses".

This innovative way of tourism able of harnessing the geological peculiarities of a region, promoting sustainable development through actions that encourage the practice of environmental and social responsibility, it was the main reason to perform the research in the Colônia impact crater region. On the basis of the proposals suggested by Dowling, 2011 and Crawfo & Black, 2012, this article provides a holistic evaluation considering the following aspects: a) geological and geomorpholocal features, b) vegetal cover distribution, c) environmental protection laws, d) dynamics of urbanisation and e) strategic plan for preservation.

PHYSICAL CHARACTERISTICS OF THE REGION

A careful examination of the physical environmental components of the Colônia impact crater is indispensable to understanding the natural processes that could potentially increase the risk and vulnerability of the region. Although several elements should be taken into account in the evaluation of a substrate's physical properties, according to Gissoti & Zarlenga (2004), two are often quoted as essential: a) a comprehensive understanding of the landscape particularities from a morphological viewpoint and b) a general summary focusing on the regional and local distribution of the main lithological units.

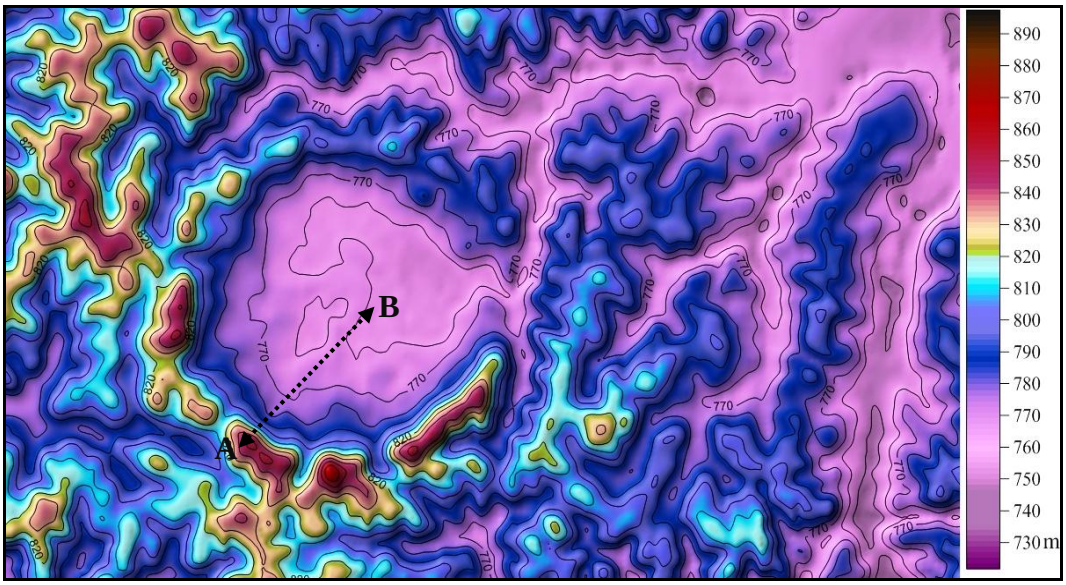

Figure 2. Circular topographical feature of the Colônia impact crater showing a clear altitude difference between rim and floor. Digital elevation model from SRTM data.
The A-B transect indicates the position of the sketch shown in Figure 4

The crater has an area of approximately 10.2 km² and possesses distinct geological and geomorphological characteristics. With a 3.6 km rim-to-rim diameter, the Colônia crater can be easily identified on a satellite image. The uplifted rim is composed of several flat-topped hills arranged in a ring, a typical residual landform that is markedly different from the central area. This topographical feature was generated through a multistage cratering process, resulting in a significant contrast in the altitudes of the rim and floor of the crater (Figure 2). This contrast reaches 120 m in some places. Unlike the ring, which displays steep hillsides, the internal area is an extensive, flat surface with minor local variation. The surface drainage pattern is similar to a bowl-shaped basin, in which most watercourses drain toward the centre. The Ribeirão Vermelho River is the only runoff channel flowing in an easterly direction to discharge its waters in the Billings hydrographic basin.

The most common rock-stratigraphic units in the region are those from the crystalline basement, Embu Domain (Sadowski, 1974), which are part of an orogenic zone complex of the Neoproterozoic Era named the Ribeira Fold Belt by Hasui et al., 1975. An exhaustive geological survey was carried out by Coutinho (1972). The region of Colônia was as a terrain composed essentially of Precambrian metamorphic and igneous rocks, Tertiary sediments and Quaternary deposits. Mica schist, gneiss, quartzite, migmatite and quartz diorite are the oldest rocks sustaining the crater rim (Coutinho, 1980) (Figure 3). The outcrops are not exposed continuously and are often covered by an extensive layer of deeply weathered rock and dense vegetation. A long, narrow strip of remaining Paleogene deposits from the São Paulo Basin, correlated with the Resende Formation (Riccomini et al., 1992), occurs in the southern and south-eastern segments of the crater's inner rim.

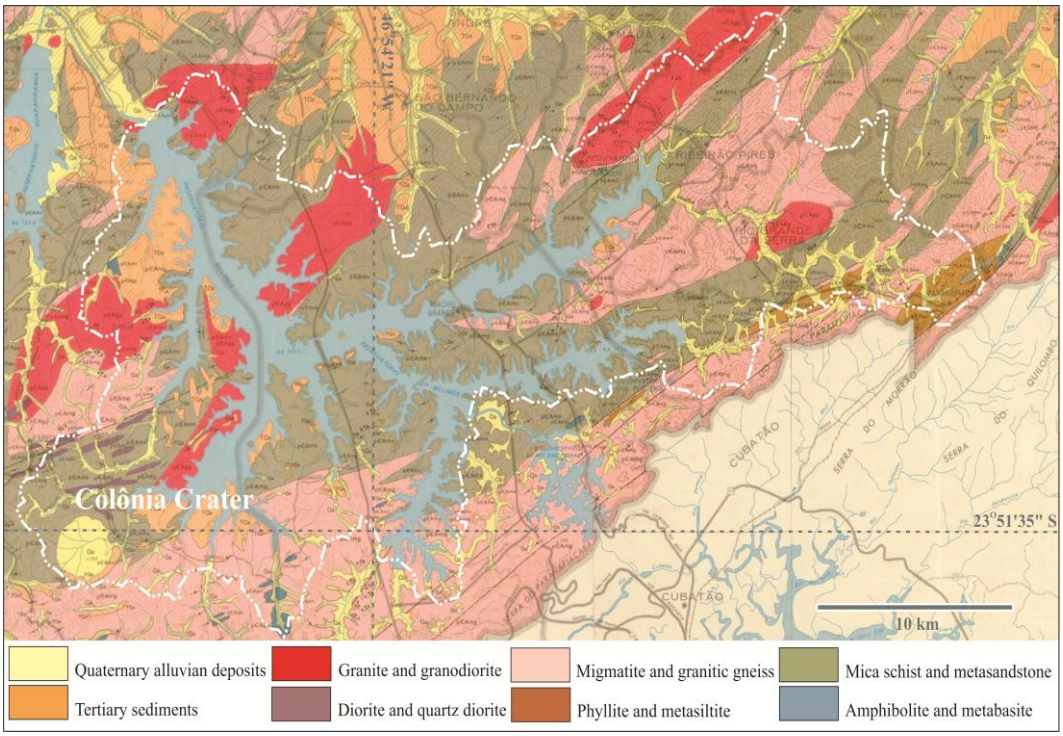

Figure 3. Main lithological associations of the outcropping in the Colônia impact crater region. The Billings hydrographic basin is indicated by the white dotted line (source: Coutinho, 1980)

Climate, relief, soil permeability and soil types are all natural conditions that strongly influence plant species distribution throughout the crater. Although the region does not present significant variations in terms of altitude, field observations suggest that the effects of slope gradient and the saturation zone of groundwater are the principal factors controlling the spatial distribution of vegetation on the site (Figure 4). In general, it is possible to note a clear difference between the vegetation in the most erosive zone, the crater rim, which is composed of large trees serving as habitat for a rich array of fauna including birds, mammals and reptiles (Marçon, 2009), and the sedimentation zone, the crater centre, where a mosaic of marshy vegetation and other types of herbaceous plant species gradually begin to prevail (Velázquez et al., 2006; Marçon, 2009).

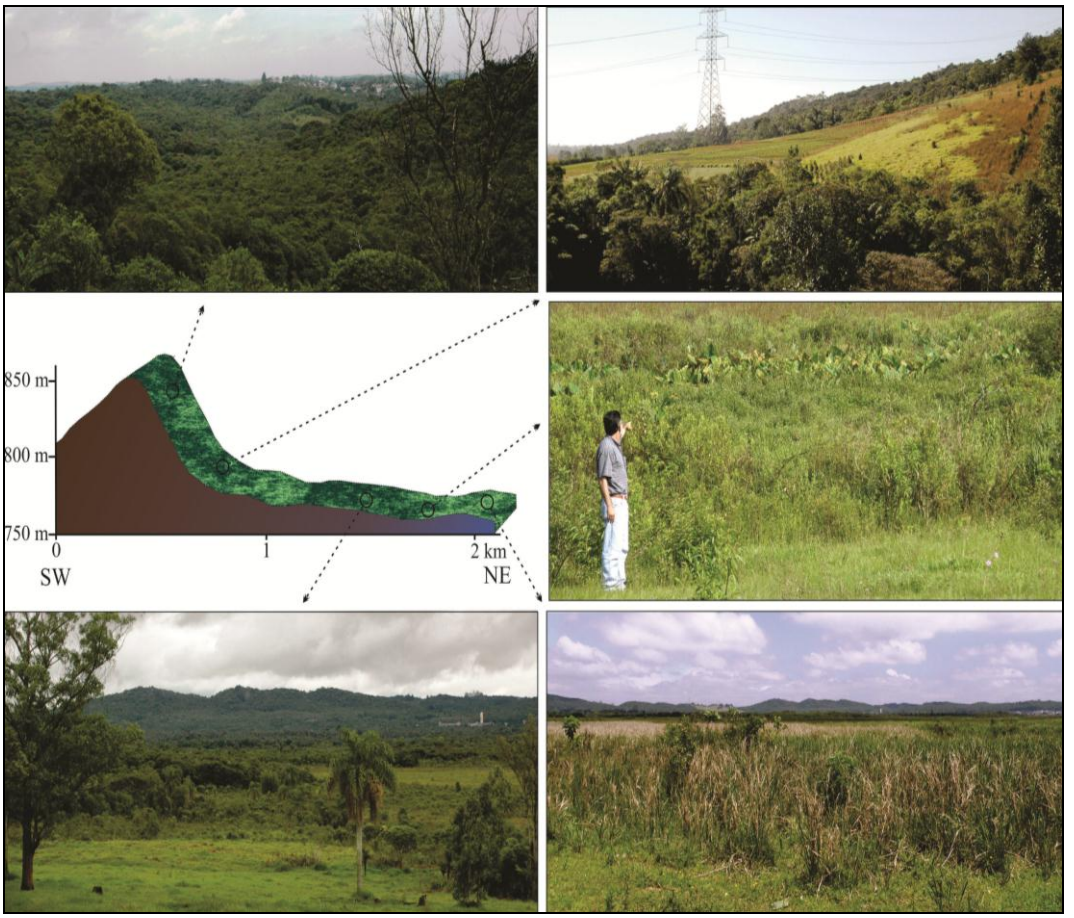

Figure 4. Schematic illustration of the slope gradient effect and the saturation zone of groundwater on the spatial distribution of vegetation

The sediments that fill the crater are still undergoing compaction and consolidation processes. As a result of this very particular situation, the layers are highly permeable and exhibit behaviour similar to an unconfined aquifer. In this type of aquifer, the water table is extremely close to the surface, and the downward movement of contaminants becomes an imminent danger, particularly during periods of intense rain, when groundwater recharge occurs across the entire surface. This area is particularly susceptible to pollution

and requires stronger environmental protection measures. Therefore, all potentially polluting activities should be rigorously forbidden.

The risks of landslides and flooding are also severe problems in the crater, and both processes are markedly worsened by unplanned urbanization. In areas with steep slopes and little or no vegetation, rainwater penetrates to deeper layers. In such circumstances, erosion operates efficiently, removing the weathered rock materials without major impediments. This is the main mechanism responsible for structural failures in civil engineering works, generating instability in buildings along hillsides and increasing the possibility of a general collapse. Residences situated in topographically low regions, and, in particular, very close to the Ribeirão Vermelho River, have also been subject to frequent, episodic flooding, which has endangered the physical integrity of many families.

LEGAL PROTECTION MEASURES

A large number of environmental rules have been established to preserve the Colônia crater region (Figure 5). The first concerns State Legislation around the Watershed Protection Area of the São Paulo Metropolitan Region. Since its promulgation in 1975, this law has organized and guaranteed the supply of drinking water to the population. To further ensure the watershed protection and to reinforce local preservation, the Environmental Protection Area of Capivari-Monos was created in 2001. This resolution was issued by the municipal government to safeguard an area of 251 km2 that, until then, had received little to no attention. The region contains important native vegetation of the Atlantic Forest, several wildlife and flora species, and numerous waterfalls (SMVA, 2011). Similar to other areas of large size, the main problems faced in this region relate to management and efficient supervision.

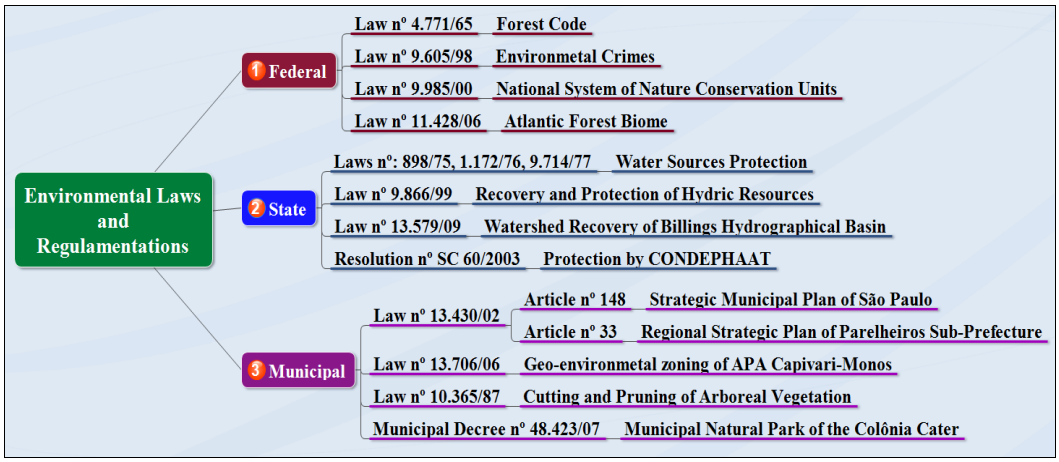

Figure 5. This chart summarizes the main environmental measures that have been instituted to protect the Colônia impact crater region (sources: data from SMVA, 2012; SMA, 2013)

A few years after the formation of the Environmental Protection Area, the Defence Council of Historical, Archaeological, Artistic and Tourism of the State of São Paulo (CONDEPHAAT), after a comprehensive analysis and through the application of specific legislation, declared dominion of public power and natural heritage over the region occupied by crater. With the advancement of research, the relevance of the crater be came widely accepted by the scientific community. Based on an exhaustive bibliographical review conducted by Riccomini et al., (2005), the Brazilian Commission of Geological and

Palaeobiological Sites took the initiative to add Colônia in its database. Two years after the addition, a small area located further to the south of the crater was officially decreed Municipal Natural Park of the Colônia Crater. A total area of 52.8 hectares was slated for the development of research activities, environmental education, ecotourism, maintenance and integral protection of the area's ecosystems (SMVA, 2012). The most recent decision made by the Secretary of State of the Environment, through the Council of Geological Monuments of the São Paulo State (CoMGeo-SP) conceded the title of Geological Monument to the Colônia impact crater (SMA, 2013).

Despite preventive measures and the efforts of various social and institutional actors (community leaders, environmental NGOs, local entrepreneurs and governmental authorities) to prevent abuse, the practices of deforestation and burning; hunt, capture and unlawful sale of wildlife; and the predatory extraction of palmettos, bromeliads and orchids are still common in the region. In view of this unsatisfactory situation, adoption of a strategy to conserve the crater should be a priority, not only for its direct impact on the life quality of the local community, but because of the intrinsic value of its natural diversity.

HISTORICAL PERSPECTIVE OF HUMAN OCCUPATION

There is very little information available on human settlement of the region prior to the arrival of German immigrants in 1827. An analysis of historical data indicates to a sporadic presence of Indians and mestizos scattered throughout the region. According to Ribeiro (1997), the "Colônia Alemã" neighbourhood, later referred to as "Colônia Paulista", is one of the oldest settlements formed by foreign residents. Since the time of its establishment in 1827, "Colônia Paulista" has been a neighbourhood with little inclination toward development. In spite of being an economically disadvantaged region, the trajectory of German immigrants in the area has been documented by historical sites such as a meeting house and cemetery (ACEMPRO, 2008). After the Second World War, several Japanese families occupied the area. With a firm and determined attitude toward cultivating the land, these immigrants concentrated their activities on floriculture and horticulture. Although agricultural activities can negatively affect the environment, the boundary of the cultivated land area has remained relatively steady (SMVA, 2012).

The most significant transformation occurred with the foundation of the Vargem Grande neighbourhood in 1989. Encroachment was promoted by the Union of the Slum Dwellers of Grajaú (UNIFAG). With approximately 1,200 families, the occupation started on the northern rim and spread there after towards the centre of the crater, until it neared the floodplain of the Ribeirão Vermelho River (SMVA, 2012). According to the Community Housing Association of Vargem Grande, there are currently almost 45,000 residents in the neighbourhood, and over half of the population lives without access to basic sanitation systems (Figure 6). Another cause for concern is the Penal Establishment Agent of Security Penitentiary Joaquim Fonseca Lopes. Inaugurated in 1987, this prison operates atover two times the maximum capacity, maintaining a population of 1,392 detainees (SAP, 2013).

The natural conditions of the crater —steep slopes, active floodplain and large areas with loose soils— are usually considered unfavourable for urbanization. Unfortunately, the adverse conditions of this site have not been sufficient to impede the obstinate determination of foreign immigrants in exploring unknown lands, on the one hand, and the legitimate necessity of a disadvantaged social class with no other options to establish a place to live on the other hand. With a little technical knowledge, a minimum of infrastructure (drinking water and electric power), and without appropriate planning, the crater region was transformed into a typical example of illegal

land ownership. Today, the landscape of the crater is a mosaic comprising fragment of Atlantic forest, floodplains, agricultural lands and homesteads, a natural park, a penitentiary and the Vargem Grande neighbourhood.

The chaotic pattern of urban growth inside the crater, as well as the expansion of agricultural areas, has severely impacted the environment (Figure 6), directly directly resulting in significant loss of vegetation cover, reduction in the permeability of the upper sedimentary layer, increases in soil erosion processes and the silting up of superficial drainage networks.

Figure 6. Panoramic views of the Vargem Grande neighbourhood located at the northern rim of the Colônia impact crater. In the background can be seen the southern rim partly occupied by besiegers and smallholders

STRATEGIC ACTION PLANS FOR ENVIRONMENTAL PROTECTION

The Parelheiros district has the most extensive vegetation cover of the Metropolitan Region of São Paulo, is one of ten districts with better environmental quality, and it also possesses the second largest rural area in the Region. However, this promising scenery is under continuous anthropogenic pressure, which represents a risk for environmental protection. Such a threat confirms the need for an integral action program that takes into consideration all aspect of the current problem (Colonna & Velázquez, 2012).

The first proposal for territorial planning in and around the Colônia impact crater was included in the Regional Strategic Plan of the Parelheiros Subprefecture, launched in August 2004, in which were summarized the main guidelines for the use and occupation of the land and the measures for environmental preservation. As pointed out by Alcarde (2010), the recommendations are only an incentive for the elaboration of a local management plan, because legal actions that should have put into practice the programs were seriously compromised. Research driven by Paiva Junior (2012) also shows the importance of incorporating alternative parameters that, in certain situations, could prove advantageous for the process of preservation and sustainable development.

For this author, the most relevant aspects of successful program planning are: a) the selection of appropriate indicators at different strategic levels, b) an efficient method

for the collection and interpretation of data and c) the active participation of the local community to be benefited. Obviously, this type of approach involves a series of changes to the traditional urban planning model. The first step requires the acquisition of new data to develop an accurate diagnosis of the current situation and provide appropriate guidance for participatory decision making.

The Municipal Natural Park of the Colônia Crater Management Plan is another document that focuses on the crater region (SMVA, 2012). After being approved by the Management Council of the Environmental Protection Area—Capivari-Monos and the Municipal Council of the Environment and Sustainable Development, the plan was officially released in 2012.

With the purpose of protecting an area of 52.8 hectares located on the extreme southern edge of the crater, the management plan aims to establish guidelines and define the actions that should be performed to ensure the execution of environmental preservation, monitored visits, research and leisure activities on site. Furthermore, it provides a legal framework outlining the main laws and processes that govern the enforcement of management programs and the protection of the park. Although it is still in the implementation stage, this document offers the tools required to overcome the challenges of planning, management and conservation.

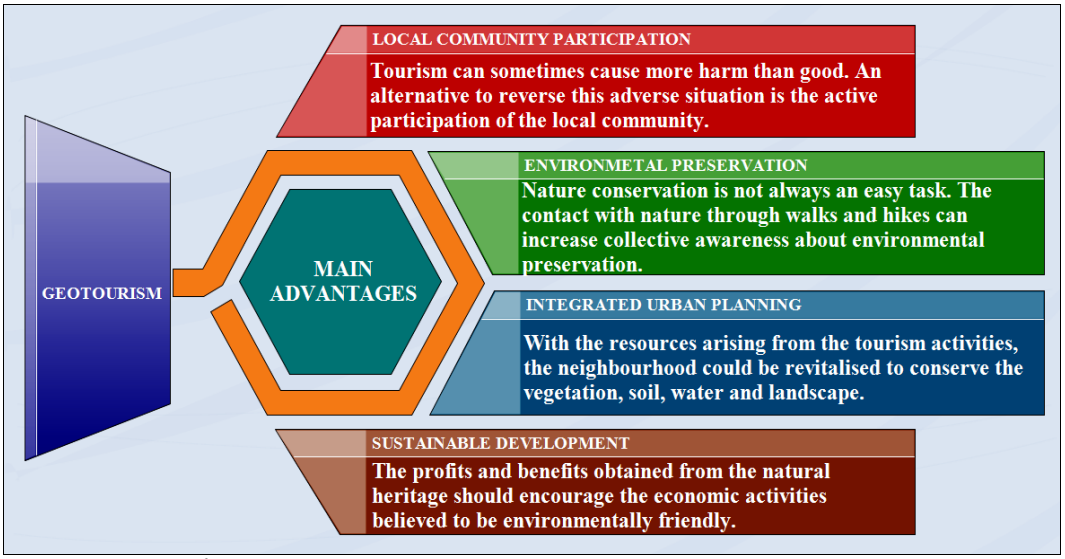

Figure 7. The main environmental, social and economic benefits arising from the implementation of a geotourism program

The action plans proposed by the public authorities are clearly intended to preserve the crater region. However, transformational processes demand rigorous attention and periodic assessment through the use of accurate technical studies. The execution of programs and activities that motivate the participation of the local community are also extremely important. Aside from ensuring the means of implementation, infrastructure and human and financial resources, programs should give higher priority to the more ambitious proposals, those that take into account the possibility of broad societal involvement (Figure 7). An initiative of this nature should not be limited only to the interests of the best organized social groups. It should create opportunities to involve as many people from the local community as possible.

FINAL CONSIDERATIONS

The natural elements that comprise the Colônia impact crater can be used in education to illustrate diverse aspects of the geological and biological sciences. The mineralogical and textural features of the metamorphic, magmatic and sedimentary rocks present several types of transformational processes that have occurred from the earliest times to the present in the Earth's crust. Important information about the region's palaeoclimatical evolution can be obtained from sediments within the crater. In a similar way, palaeoweathering of the surface provides essential information about the process of soil formation and allows scientists to diagnose areas at greater risk of landslide. The crater also has a rich biota that includes a wide variety of animals and plants. Due to its privileged geographical position and easy access, the crater region provides favourable conditions for geotourism, where students of various educational institutions, with different levels of schooling, could have the opportunity to develop integrated activities using the scientific method and pedagogical techniques. It is also an important recreational area with several trails and an extensive space for sports, walking and cycling (Velázquez et al., 2014a).

The accelerated process of urbanization is certainly one of the major factors responsible for the transformation of the natural landscape and its consequent environmental degradation. For this reason, nature preservation and the planning and territorial management of natural areas continue to be very difficult tasks for local authorities. However, the municipal government and the local community have already entered into negotiations to address some specific needs. The dialogue focuses on two priorities: a) accommodating the families that live in at-risk areas elsewhere and b) establishing a landscape project for the remodelling of the Vargem Grande neighbourhood and the recovery of degraded areas. Current decisions fall far below expectations. The lack of consensus between the parties involved concerning the redefinition and reformulation of the primary objectives has caused a certain tension in the negotiations of the agreements and, in some cases, has jeopardized the execution of the projects. Nevertheless, the management program to be implemented in the region requires an integrated strategy that incorporates environmental preservation principles, economic growth and sustainable urban development.

In light of the points outlined above, it is possible to verify that the programs and negotiations in progress, although very well formulated in technical and political terms, are as yet insufficient to address the problems of urbanization, agricultural expansion and nature preservation. For an adverse situation such as this, sustainable tourism is an excellent alternative. Such a program should take into account the totality of the resources available: (i) landscape tourism, which provides opportunities for the appreciation of the amazing feature of a hypervelocity impact, (ii) nature tourism, where people observe the diversity of flora and fauna via trails and (iii) permaculture tourism, which allows tourists to learn about a system of family farming adapted to the local conditions without agrochemicals (Velázquez et al., 2014b). Ecotourism as a tool for socioeconomic development in environmental protection areas is doubly advantageous. The activities can be diversified into several segments, generating new employment opportunities for the local community. Another benefit derived from this experience is the possibility to show the potentiality and value of the region's natural resources, encouraging the community in general to develop actions that involve environmental preservation.

The Colônia impact crater region has all of the attributes to become an attractive place for tourism (Figure 8). However, a detailed study should be conducted on the social and environmental problems surrounding the crater to ensure a promising future. As

mentioned by Ruiz de León (2010), the transformation of natural resources into quality tourism services for a region will only be possible with the active participation of the local community. From this principle, the geotourism is proposed as a feasible opportunity to promote the valorization of the region's natural resources while encouraging the participation of the community in environmentally sound tourism programs.

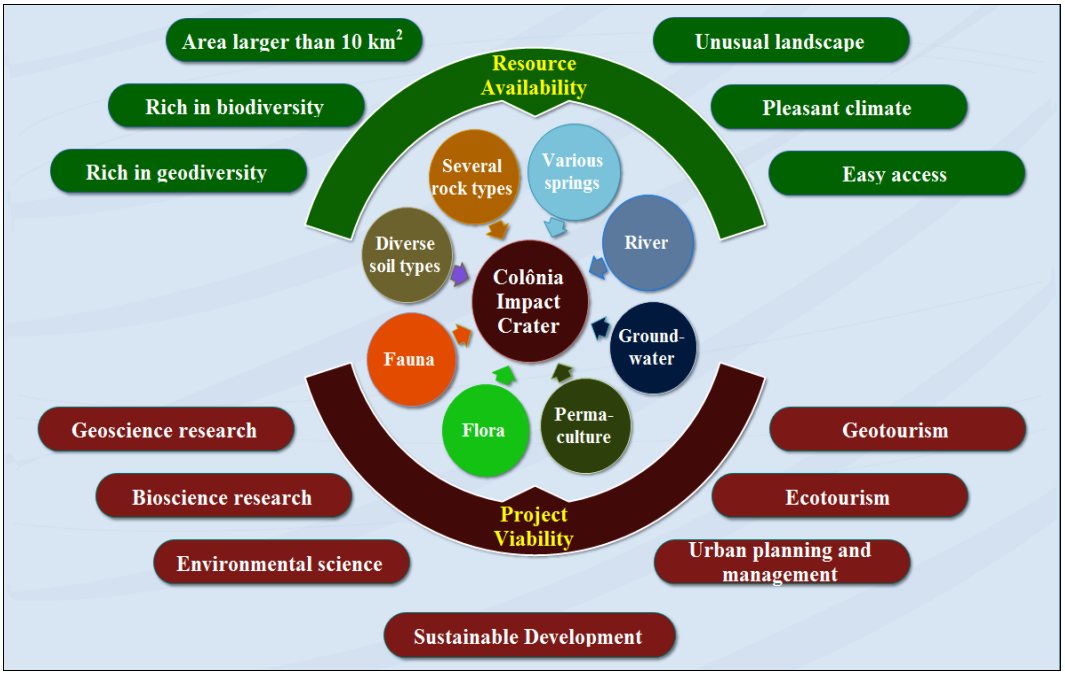

Figure 8. Contextualisation of the resources available and the main activities that can be performed to ensure the preservation, sustainable development, continuity of research, teaching practice and leisure for the population

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DIFFERENCES IN THE PERCEPTION AND EVALUATION OF TOURIST ATTRACTIONS OF MENORCA BY ITS RESIDENTS AND TOURISTS

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Abstract: The subjects of this work are the analysis of perception and assessment of tourism attractions of Minorca from the point of view of two groups of people: locals and tourists. Different grades dominate in the opinion of people staying for a long or a short period. Many residents depend on income from tourism, which is why they will probably pay more attention to the facilities for arriving guests. It can be stated that besides the obvious difference between inhabitants of the island and tourists who visited it, such as the assessment of seasonal transport, local fiestas or monuments, there were also differences with no obvious character.

Key words: Menorca, tourist attractions, tourist movement, evaluation, indexation

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INTRODUCTION

Menorca is a less known island of the Balearic Islands. It is smaller than Majorca and does not have a party island reputation like Ibiza, but perhaps because of this, it is believed that the island has exceptionally well adapted to tourism preserving all its charm. The number of tourists who annually visit Menorca confirms its tourist attractiveness. There is no doubt that the island has an extraordinary richness in terms of both anthropogenic and natural assets. „If you visit a travel agency in Britain and ask about Menorca, the first thing you will notice is that this Mediterranean island is a family destination. The family character of Menorca is not uncommon" (Obrador, 2012).

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There are numerous remnants of the Talaiotic Culture from the Bronze Age, which cannot be found anywhere else. Unique natural wonders of the S'Albufera des Grau Natural Park and the entire territory of Menorca caused it to be recognized as a UNESCO Biosphere Reserve. The Mediterranean climate and more than 200 kilometers of beautiful beaches are the most characteristic features of the second largest island of the Balearic Islands. The subjects of this work are the analysis of perception and assessment of tourism assets of Minorca from the point of view of two groups of people: locals and tourists. Two aforementioned groups can variously perceive the multiplicity of natural and anthropogenic assets. Different grades dominate in the opinion of people staying on the island of Menorca throughout the year and the ones staying for a short period. Many residents depend on income from tourism, which is why they will probably pay more attention to the facilities for arriving guests (Garin-Muñoz & Montero-Martin, 2007).

On the other hand, some residents may have less enthusiasm and value the tourist attractions less because of the large tourist movement associated with sightseeing (Dehoorne et al., 2010). In turn, obviously the tourists who come to Menorca for shorter or longer vacations will appreciate other values.

It is assumed that the evaluation will vary among tourists due to different preferences in the way of recreation and organization of leisure time. However, taking into account the important role that tourism plays in the development of the island, it can be assumed that the tourism industry determines the perception of residents largely, in line with the perception of tourist assets of the island by visitors. However, deeply rooted traditions, which are still present, also allow visitors to evaluate the tourist attractions from the point of view of indigenous people.

METHODS OF INVESTIGATION

The investigation encompasses the assessment of the value of natural and anthropogenic attraction of Menorca by inhabitants of the island and visiting tourists. Observations that inspired the research connected with the presented issues were conducted during two summer seasons in 2011 and 2012, while the summary of the results of surveys took place in 2013. The work was based on the literature, which consisted primarily of guides about the Balearic Islands (Rudnicki, 2007) and the island of Menorca. Publications in both Polish and Spanish were used. In the descriptive part, presenting selected elements characterizing Menorca and its assets, the technique of description based on literature was used. This technique was enriched by own insights and research conducted during two study visits that were connected with working on the island during the summer season.

The empirical part of this work was done using a sounding method, including surveys and participant observation (Ilieş et al., 2010). To carry out the research the questionnaire was distributed among the control group during the study visit on the island and through the Internet - e-mail and web portals that bring together people interested in the presented topic. For the analysis, the first 50 questionnaires filled in by residents and the first 100 questionnaires filled in by tourists were selected. It was assumed that the number of 50 questionnaires was representative for a relatively homogeneous cultural group of residents of Menorca (Lee, 1999). Doubling the number of questionnaires selected for surveys of visitors took place due to a much greater geographical and cultural diversity of tourists visiting the island, as well as because of a similar proportion (1: 2) between the number of inhabitants and the number of tourists visiting the island (according to ibestat.caib.es, 2014). The first submitted and completed questionnaires were analyzed.

It was assumed that those respondents who were the most interested in the subject expressed themselves. These people also made an effort to respond, and it is why their assessment had the most authoritative character and was presented in a relatively short time allowing for aggregation. The literature used when writing the work is primarily publications, mainly guides related to the island, as well as the Balearic Islands and Spain (Nazimek, 2010). Polish literature does not have many detailed descriptions of Menorca, especially compared to neighboring Mallorca and Ibiza (Ilieş & Wendt, 2015). Menorca is always in the shadow of Mallorca in the guides to the Balearic Islands that devotes much more attention to the larger island, leaving just a few pages for the issues related to smaller islands of the archipelago.

Spanish publications are definitely a better source of information on Menorca. Many of them are devoted only to the whole of Menorca. These publications are much more detailed and up to date. The guide „Menorca" by T. Kelly (2010) with lots of useful tips and trivia deserves special attention among them and can be a great help for individual exploration of the island.

When analyzing the tourist assets the following works published in Madrid were useful: J. de Juan y Peñalosa and S. Nieto Ocaña (2006) "Descubra España. Pueblo a pueblo por las rutas más bellas. Islas Baleares", G. Barragán (2006) "Islas Baleares", P. Josse (2007) "Baleares", M.P. Queralt (eds.) from 1999, "Descubrir España. Baleares / Canarias". The other two publications issued in Catalonia "Menorca. Un paseo por la isla" by J. Montserrat (1997) and "Enciclopedia de Menorca. T1 Geografía física" by A. Obrador (1981) included detailed descriptions, colorful illustrations and were a perfect representation of the island. Among the Polish publications the most useful ones were guides and works of M. Gostelow (2000) "Majorka i Minorka", G. Micuła (2004) "Majorka, Minorka i Ibiza", M. Pawłowski (2011) "Majorka, Minorka i Ibiza" and the work edited by M. Adamczyk-Mozolewska and K. Duran (2002) "Hiszpania", published in a series of guides from National Geographic. A good source of statistical data was the publication "El Turisme a les Illes Balears, Anuri 2014", (2015), issued by Govern de les Illes Baleares in Palma: Agencia de Turisme de les Illes Balears and websites "ibestat.caib.es".

ANALYSIS OF THE ASSESSMENT OF TOURIST ATTRACTIONS AND TOURIST DEVELOPMENT OF MENORCA IN THE PERCEPTION OF RESIDENTS AND TOURISTS

Fifty questionnaires filled in by residents and 100 questionnaires of tourists were analyzed. The survey had the electronic form and was distributed by e-mail and via web portals related to the issue of tourism on Menorca. Among the residents, most respondents were men – 62%. They were mainly young people aged 18-26 (46%) or 27-35 (34%). 90% of respondents were employed. The vast majority of respondents were Hispanic (90%). Among them, 44% were residents of Ciutadella, 22% Mahón, 12% Cala'n Bosch, others lived in Ferreries, Es Mercadal Fornells and Es Migjorn Gran.

Most of surveyed tourists were women – 68%. Among tourists, like in case of residents, young people aged 18-26 (61%) or 27-35 (19%) dominated. 82% of respondents were employed and 15% of people were learning or studying. Among tourists, the Spanish were the largest group (48%), followed by the British (36%). The main vacation destinations were: Ciutadella (27%), Cala`n Bosch (19%), Mahón (15%) and Cala Blanca (13%). Tourists came generally for periods of 6-10 days (49%) or 11-15 days (37%). Most of them chose apartments (62%) and hotels (34%) as the places of accommodation. The tourists were spending their holidays mostly with families (43%) or friends and colleagues

(32%). 36% of respondents decided to come to Menorca for holidays because of their previous stays on the island, 28% of them received the offer from a travel agent and 17% had recommendations from family or friends. What confirm thesis about destitation image (Phelps, 1986; Beerli & Martin, 2004).

The most popular forms of leisure activities of tourists were (respondents could choose from 1 to 3 answers, so they did not add up to 100%): staying on the beach (78%), visiting pubs and discos (72%), followed by attending sightseeing tours in towns and historic sites (32%), participating in package tours (29%) and using hotel's all-inclusive offer (23%).

Table 1 presents answers to the question "Do you think of Menorca as an attractive place for tourists?". The results show domination of the opinion "Certainly YES" by both residents (94%) and tourists (89%). This means that residents of Menorca recognized and appreciated the tourist potential of their island. Indications of tourists confirmed the importance of Menorca in tourism movement in the Balearic Islands and that it was a frequent tourist destination due to its attractiveness.

Table 1. Do you think of Menorca as an attractive place for tourists?

Categories of responses	Residents	Tourists
Certainly YES	94%	89%
Rather YES	6%	8%
Hard to say	0%	2%
Rather NOT	0%	1%
Certainly NOT	0%	0%

Table 2. What has the greatest impact on tourism attractiveness of Menorca?

Categories of responses	Residents	Tourists
Climate of the island	32%	34%
Beaches on the island	34%	33%
Tourism infrastructure	2%	15%
Cultural events / other events	20%	9%
Prehistoric remains of architecture	8%	6%
Architectural monuments	4%	3%
Others	0%	0%

By analyzing table 2, the most important assets having impact on tourism attractiveness of Menorca can be seen. In the opinion of residents, the most important elements affecting the island's attractiveness were beaches (34%), climate (32%) and cultural events (20%). Answers of tourists partly overlapped with the responses of residents – 34% indicated climate and 33% beaches. However, the third place was connected with well-prepared tourism infrastructure – 15% of all responses by visitors. Only 2% of resident's answers indicated this element.

This showed the important role of tourism infrastructure in perception of tourists, which was undervalued by inhabitants probably for a very simple reason – they did not use such infrastructure.

The matrix questions with a single-response presented in table 3 were related to various aspects affecting the development of tourism and enhancing the attractiveness of a given destination. The respondents evaluated the following elements: beaches, atmosphere during their stay on the island, entertainment, and food related services,

accommodation, tourist trails, tourist information, cultural attractions, monuments and transport. To evaluate the overall performance a scale of 1–5 was used: 1 = very poor, 2 = poor, 3 = fair, 4 = good, 5 = very good.

The first group of assessed elements included beaches – a natural asset, entertainment – an anthropogenic asset and atmosphere during the stay on the island. Average scores for these categories ranged from 4.43 (entertainment) through 4.69 (atmosphere) to 4.89 (beaches). The study confirmed results obtained from the previous question (cf. table 2). The beaches of Menorca were considered the greatest value of the island by locals and tourists and received the highest scores. Only one category of assets was scored so high by so many respondents. 49 (96%) out of 50 residents and 89 out of 100 respondents assessed them as "very good".

The score "good" for beaches was given only by one resident and 11 tourist. In this case, there is no doubt that Menorca beaches were one of its major attractions that was appreciated by both residents and vacationing guests. The average rating of beaches in the perception of inhabitants was as high as 4.96 points (out of max. 5 points) and according to tourists, it was only 0.15 points lower.

Table 3. Evaluation of attraction and tourism infrastructure of Menorca (%)

Assets and attractiveness / evaluation	Very poor (1)		Poor (2)		Fair (3)		Good (4)		Very good (5)		Not applicable (0)		Average rate (points)	
	R	**T**	**R**	**T**	**R**	**T**	**R**	**T**	**R**	**T**	**R**	**T**	**R**	**T**
Beaches	0	0	0	0	0	0	4	9	96	89	0	0	4,96	4,81
Atmosphere	0	0	0	1	0	1	32	25	68	72	0	1	4,68	4,70
Entertainment	0	0	0	0	10	3	52	36	38	61	0	0	4,28	4,58
Food services	4	0	18	0	6	8	38	28	34	64	0	0	3,80	4,56
Accommodation	0	0	0	2	10	10	8	12	10	67	72	4	4,00	4,34
Tourist trails	0	1	0	2	16	5	58	39	20	43	6	10	4,04	4,34
Tourist information	0	2	0	6	8	5	0	14	18	47	74	26	4,38	4,32
Culture	0	0	8	7	64	21	22	37	4	28	2	7	3,22	3,92
Monuments	0	2	0	4	12	19	26	54	62	21	0	0	4,50	3,88
Transport	8	3	22	6	48	33	14	42	8	16	0	0	2,92	3,62

R – Residents; T – tourists

Atmosphere on the island received a score almost as high as beaches. It is difficult to define "atmosphere of the stay" as it is a personal impression felt by tourists or residents staying on the island. This element used in the survey was fully subjective and strongly dependent on many factors, both physically geographical as well as anthropogenic. The overall atmosphere of Menorca was evaluated at a high level – answers "very good" were given by 68% of local population and 72% of tourists, while the responses "good" were mentioned by 32% of locals and 25% of visitors. Therefore, the highly attractive tourist beaches were accompanied by a good atmosphere of the stay in the perception of residents and tourists.

Entertainment took the third place in terms of tourist assessment. The opinion "very good" dominated within 61% of people and the answer "good" was chosen by 36% of visitors. Residents of Menorca gave lower rates for entertainment. "Good" was selected by 52% inhabitants and "very good" by only 38% of them. The domination of young people among respondents made it possible that entertainment was their preference for spending leisure time. The next four components of the assessment

included food services and accommodation facilities as well as tourist trails and tourist information. The average ratings for these categories were 4.18 (food services), 4.17 (accommodation), 4.19 (tourist trails) and 4.35 (tourist information). Food services were rated by locals as "good" (38%) or "very good" (34%). Tourists assessed food related services by nearly 0.8 points better than the residents did. 64% of visitors rated them as "very good" and 28% as "good".

Low rating was admitted only by residents – 18 people indicated the answer "poor" and 4 people rated food related services on the island as "very poor". Significantly higher scores that were related to food services in the perception of tourists in relation to inhabitants (4.56 to 3.80) can be explained by a certain degree of difference between local gastronomy on the island and their traditional cuisine, e.g. English (36% of respondents were from the UK).

In addition, for indigenous people local cuisine was simply good, something what they were used every day. The data presented in table 3 clearly showed that the vast majority of local population could not be applied the criterion "accommodation", which was already underlined in the previous question of the survey (cf. table 2, tourism infrastructure). 28 residents decided to evaluate this element from "fair" to "very good". Tourists evaluated accommodation as "very good" (67%), the next 12 as "good" and 10 as "fair". Four tourists who marked the answer "not applicable" probably came to visit their families or friends.

Tourist trails were rated by most locals as "good" (58%) or "very good" (20%), only 16% assessed them as "fair". The average scores of answers of tourists were 0.3 points higher. Respondents of this group were split between "very good" (43%) and "good" (39%). 3 people among residents and 10 tourists declared a lack of interest in trails. Tourist information was evaluated by an average of 0.17 points higher than the other elements in that group.

Interestingly, an average rating of inhabitants (4.38) is slightly higher (4.32) than the assessment of tourists. Only 13 people per 50 surveyed residents decided to assess tourist information evaluating it as "very good" or "fair", which might explain the high rating of tourist information by natives. Possibly local people did not make use of tourist information and it was why they ticked "not applicable". On the other hand, tourists most often evaluated tourist information as "very good" (47%) or "good" (14%). Interestingly, not only 37 surveyed residents marked tourist information "not applicable", but also 26 visitors did the same. The explanation for this type of answer was the knowledge about the island possessed by residents, and in case of tourists the fact that some of the respondents (36%) visited Menorca once again and was already familiar with sufficient information.

The components with the lowest average grades were in the last group of analyzed responses. These included culture (3.57), monuments (4.19) and transport on the island (3.27). Residents assessed the widely understood culture as "fair" (64%) or "good" (22%). The most frequent answers of tourists were "good" (37%), "very good" (28%) and "fair" (21%). Noticeably higher scores in the responses of visitors were probably due to cultural uniqueness of the island and its specific "exoticness" (music, culture, architecture of Menorca).

Average rating of culture given by inhabitants (3.22) was related to its daily presence. Similarly, in the category of monuments there was a significant difference in ratings of tourists and islanders. 44 inhabitants (88%) assessed the monuments of Menorca as "very good" (62%) and "good" (26%). Tourists treated them with lower enthusiasm giving them answers "good" (54%), "very good" (21%) or "fair" (19%).

This high rating of residents is probably related to strong local patriotism, while lower rates in the tourist responses may be the result of comparisons with historical sites in other tourist spots in the world. Ratings of residents and tourists regarding transport were also decidedly different. Only 48% of local people marked transport as "fair", 22% as "poor", and 8% as "very poor". Tourists evaluated transport on the island slightly better – 42% indicated the answer "good", 33% "fair", and 16% as "very good".

Factors that influenced the negative assessment of transport in the opinion of residents (average rating of only 2.92) were the seasonality of some public transport connections and an insufficient road network. Transport of Menorca had better ratings in the evaluation of tourists (3.62), because they used it only in the short term and rated transport from the perspective of people moving short distances between the place of accommodation and the beaches or other attractive places on the island.

Many places on Menorca are well connected during the summer season due to the presence of tourists. In terms of using means of transport, a definite discrepancy presented in table 4 can be seen between residents and visitors. Among the residents private cars (72%) dominated, 20% inhabitants were opting for public transport and 6% for other – they mostly pointed to the bike.

Table 4. The use of means of transport on the island (%)

Means of transport	Residents (R)	Tourists (T)	Difference (R-T)
Private cars	72	5	67
Public transport	20	53	33
Rental cars	0	27	27
Walking	2	11	9
Taxi	0	1	1
Other means of transport	6	3	3

R – Residents; T – tourists

However, tourists usually decided to use public transport (53%), rented cars (27%) or just walking (11%). The obvious biggest differences in the use of various means of transport were connected with the use of private cars – as much as 67%. Most tourists did not come to the island by cars and as a result, they could not use them during their stays. Similarly, a big difference was observed in case of public transport. More than half of tourists and only one-fifth of surveyed locals used it. The predominance of rented cars by tourists is also obvious. In turn, the popularity of walking or hiking within tourists existed because this form of spending leisure time is a classic element of cognitive tourism in the area of short distances.

As it can be seen it table 5, the most attractive cities were Ciutadella, Fornells, Mahón and Binibeca. However, the inhabitants of Menorca gave the first place to Fornells (32%), followed Ciutadella (26%), Binibeca (18%) and Mahón (12%). In contrast, according to tourists, the most attractive cities were the former capital Ciutadella (29%), the current capital Mahón (28%), Binibeca (22%), and Fornells got the fourth position (14%). The biggest differences in the assessment, reaching 16%-18% were characteristic for two cities: Fornells and Mahón. The high rating of Ciutadella and Mahón given by tourists was probably associated with fulfilling former or current functions of the capital, as the main center of Menorca, and in case of Fornells the difference in the assessment may result from the economic importance of the fishing port, marina and numerous restaurants in the local labor market.

Table 5. The attractiveness of cities and towns indicated by residents and tourists (%)

City / town	Residents (R)	Tourists (T)	Average score	Difference (R-T)
Fornells	32	14	23,0	18
Mahón	12	28	20,0	16
Es Mercadal	6	1	3,5	5
Binibeca	18	22	20,0	4
Ferreries	6	3	4,5	3
Ciutadella	26	29	27,5	3
Other	1	3	-	-

R – Residents; T – tourists

A big number of beaches on the island of Menorca made the choice of the most beautiful one difficult. According to local population, the most attractive beaches were Pregonda (26%), Cavalleria (16%) and Macarella (12%). In the opinion of tourists, however, the following places received the highest number of responses: Turqueta (17%), Pregonda (13%), Macarella (11%) and Son Bou (11%), but the last one was not popular among residents (2%). A general tendency that visitors indicated beaches, which were easily accessible and located in tourist spots, may be noticed. In contrast, residents appreciated the less accessible and unspool beaches, with less tourist movement. These analyzes demonstrated a large variety of assessments of the attractiveness of beaches, under the premise that if the beach was attractive for tourists it was less attractive for residents and vice versa. A high number of beaches, with the possibility of indicating one of the most attractive, caused the dispersion of results. Among four beaches with the highest attractiveness (average score > 10%) Macarella beach was the only one recognized as highly attractive by both residents and tourists. In case of other three beaches with an average score > 10%, residents strongly preferred Pregonda and Cavalleria beaches, while tourists considered Turqueta as the best beach.

Table 6. The attractiveness of the beaches assessed by locals and tourists (%)

Beach	Residents (R)	Tourists (T)	Average score	Difference (R-T)
Pregonda	26	13	19,5	13
Turquet	6	17	11,5	11
Cavalleria	16	7	11,5	9
Son Bou	2	11	6,5	9
Pilar	10	5	7,5	5
Son Saura	2	7	4,5	5
Mitjana	10	6	8,0	4
Galdana	6	9	7,5	3
Macarelleta	8	7	7,5	1
Macarella	12	11	11,5	1
Other beaches	2	7	-	-

R – Residents; T – tourists

Residents frequently pointed to attractions such as: Cova d`en Xoroi (26%), the hill El Toro in Catalan (22%), local fiestas (18%) – of which the most popular were the celebrations of Sant Joan in Ciutadella, beaches (14%) and the Xoriguer Gin Distillery in Mahón (10%). Tourists valued mainly beaches (21%), Ciutadella (16%), Cova Xoroi d`en (15%), Monte Toro (10%) and Mahón (10%). Partially overlapping indications

showed the most attractive places and attractions of Menorca appreciated by both locals and tourists. These were natural beaches, well-developed places, promoted attractions as such the cave D`en Cova Xoroi, Monte Toro hill or present and former capitals of the island. The score differences in the assessment of several identified sites and attractions by locals and tourists can be divided into three groups. In the first one, with four attractions/towns and cities, score differences exceeded 10%. Residents pointed to the cave Cova d`en Xeroi with a score of 26%, 22% indicated Monte Toro and 18% local fiestas. The big difference between indications of residents in the first two cases was probably related to local patriotism, and in the third case, it was the obvious popularity of all events like fiestas in a small community.

Table 7. The most interesting places and attractions of Menorca assessed by locals and tourists (%)

Places and attractions	Residents (R)	Tourists (T)	Average score	Difference (R-T)
Ciutadella	2	16	8,0	14
Local fiestas	18	5	11,5	13
Monte Toro	22	10	16,0	12
Cova d`en Xoroi	26	15	20,5	11
Gin distillery	10	2	6,0	8
Mahón	2	10	6,0	8
Beaches	14	21	17,5	7
Remnants of the Talaiotic Culture	2	8	5,0	6
Binibeca	2	6	4,0	4
Other places and attractions	2	7	x	x

R – Residents; T – tourists

In turn, fewer indications of tourists to the first two cases could be observed due to the possibility of comparing them to other known caves or viewpoints in the world. A relatively short stay on the island, even when visitors spent two weeks, did not always allow for participation in local fiestas. In addition, tourists gave 14% more attention to Ciutadella than the inhabitants of the island because of the visitors' interest in monuments and history of the former capital, which was well known by residents.

In the second group of the most attractive places and attractions there were the ones that obtained score differences from 10% to 5%. These included the gin distillery, Mahón, beaches and remnants of the Talaiotic Culture. In this group the differences were a result of more indications to beaches, the capital and remnants given by visitors, while the presence of the distillery came from its local popularity. In the third group it can be possible to find places and attractions that either received less than 5% score difference, or were mentioned only by locals, or just by tourists.

CONCLUSION

Taking into account the collected data and its analysis it can be concluded that the high ratings were unambiguous, both in the opinions of locals and tourists (Table 1). The most important factors affecting the attractiveness of Menorca, also with the similar level of assessment by both surveyed groups, were the atmosphere of the stay on the island and its beaches. What is more, residents additionally indicated the impact of cultural events like local fiestas (20%) and tourists pointed to the importance of tourism infrastructure (15%), which got the third place (Table 2). Other responses made it

possible to determine the average assessment of assets and tourism infrastructure by locals and tourists (Table 3). Average rating of tourist assets in the opinion of local population was 4.1 points and tourists evaluated them slightly higher – 4.3 points (the maximum grade was 5 points). Beaches (4.89) and atmosphere of the stay on Menorca (4.69) received the highest average grades resulting from the evaluation of residents and tourists. These assets were followed by entertainment (4.43) and tourist information (4.35). However, the last category was not fully representative, as 74% of local population and 26% of tourists did not express their opinion on it (Table 3).

The differences in assessing of the attractiveness of assets and tourism infrastructure of Menorca can be presented in three groups. An average difference rate for all ten analyzed elements was 0.395 points. Significant differences in ratings were characteristic for the first group that included: food related services (reaching 0,76 points), which were evaluated higher by tourists than by residents, transport (with difference rate 0,70 points) which also had higher scores from tourists, and culture – with the same difference in the assessment by tourists. Within four assessed categories, monuments were included with the rating difference of 0,62 points, but in this case, the grade of inhabitants (4.50) was higher than the grade of tourists (3.88). Accommodation, tourist trails and entertainment created the second group having the differences in rates between 0.3 points and 0.34 points and all assessed elements got higher scores within tourists. Tourist assets and tourism infrastructure in the third group were similarly evaluated by residents and tourists. The difference rate for beaches was only 0,15 points, for tourist information 0.06 points and for atmosphere on Menorca 0.02 points, what proved the perfect compatibility of ratings (Table 3). Analysis of the responses to subsequent research questions made it possible to conclude that there were striking differences in case of means of transport used on the island. Residents, of course, used their private cars more often and public transport less frequently, while half of tourists relied primarily on public transport and 27% of them rented cars (Table 4).

When evaluating the attractiveness of towns and cities on the island the biggest differences characterized Fornells (18%) and Mahón. In case of Fornells, difference in the assessment might have resulted from the economic importance of the fishing port, marina and numerous restaurants in the local labor market, while the higher rating of Mahón by tourists was probably associated with its functions of the former capital and main center of Menorca. The high rating of Ciutadella and Binibeca was consistent in the opinions of both groups of respondents (Table 5). It seems interesting that there were different assessments of beaches by tourists and locals. Visitors preferred easily accessible beaches located close to hotel resorts, while inhabitants of Menorca chose beaches with difficult access and fewer tourists (Table 6).

The last examined differences included an assessment of several interesting sites and attractions identified by locals and tourists. The biggest differences of scores, amounting to over 10% in this category, included the cave Cova d`en Xeroi, Monte Toro and local fiestas. The result of 26% proved that Cova d`en Xeroi was the first-insular attraction indicated by residents, while only 15% of tourists mentioned this cave. Similarly indicated by inhabitants the popular hill of Monte Toto (22%) enjoyed much lower popularity among visitors – only 10% (Table 7). 18% of islanders considered local fiestas as worthwhile attractions and only 5% newcomers shared their point of view. However, the opinion of tourists pointing to the attractiveness of the former capital Ciutadella (16%) was shared by residents to a small extent (2%).

Summing up all the research, it can be stated that besides the obvious difference rates in the assessment of tourist assets and the attractiveness of Menorca between

inhabitants of the island and tourists who visited it, such as the assessment of seasonal transport, local fiestas or monuments, there were also differences with no obvious character. These included the difference rates resulting from higher grades of tourists than residents on broadly understood tourism infrastructure, food related services or culture, which can be a source of pride for residents.

On the other hand, tourists did not assess local attractions and cities/towns as places worth exploring as great as the islanders, with the exception of consensus on the issue of the former capital Ciutadella. In addition to presenting differences in opinions, the consistent and high ratings from residents and tourists in relation to beaches and atmosphere on the island should be emphasized, as these factors are the most important ones in affecting the attractiveness of stay on Menorca.

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DERIVATE ICONIC AND SYMBOLIC FROM THE COMPOSITION OF THE RURAL LANDSCAPES DOMINATED BY THE FORTIFIED CHURCHES FROM TRANSYLVANIA, ROMANIA

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Abstract. The rediscovery of the village and the desire to know how the life and energy of rural areas pulsate generate increasingly sophisticated study directions that allow us to better understand them. This study aims to identify the personality traits of two Transylvanian rural areas, Biertan and Saschiz villages. They are dominated by the typical lifestyle of the descendants of Saxon settlers (the Transylvanian Saxons), a lifestyle that has its origins in the medieval era. Only two villages were chosen for this study (whilst 5 others are also listed as UNESCO World Heritage Sites) based on their similar features. The study sets out to overcome the condition of promoter of historical and touristic sights such as the fortified churches that clearly dominate the settlements and even a part of their surroundings. However, they are merely a pretext for deeper research into the profound force of expression of the surrounding landscapes, and most importantly of the landscapes that belong to the entire rural area. This way, we explore the essence of the phenomena that shape the local landscapes, allow them to reveal themselves and leave an impression on any viewer, specialist or layman. The dominating side of the landscape, either the natural or the anthropical one and their associated phenomenology, gives its iconic, emblematic character. The researched landscapes, their features, organisation and functioning reflect a central, elongated composition – imposed by the relief – to which all other land-related and urbanistic components adhere. The mosaic of landscapes, whose components are called here *indicators*, is analysed in detail by using a structural and a functional approach, as well as by examining the visual elements of the image and other special aspects. The final result is something that anyone can understand and remember as being iconic, symbolic, as representing the personality of the place.

Key-words: rural landscapes, composition, fortified churches, personality, iconic, symbolic

Introduction

1. Aspects regarding the terminology related to the personality and expression of the place

Each place and environment has a specific ***personality***; it emanates a weak or a powerful 'message' which awaits to be received by locals or tourists. This personality of the place, be it a city, a periurban space or a village, is expressed in different ways: either

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in a common way by using words which are related to the immediate perception of the viewer (attractive, sublime, repugnant, plain etc.) or by using more elaborate methods, which incorporate a more profound knowledge of the essence of the environmental-aesthetic and cultural phenomena. The latter is the solution used by specialists, who possess the resources that allow them to create a more elaborate synthesis, whose results are words, keywords and expressions from a large semantic array, but quite related in terms of content. These words are: *emblematic*, *character*, *symbolic*, *iconic*, *image*, *representation*, etc. but also *symbolic representation*, *iconic character*, *symbolic space*, *iconic landscape* etc. What differentiates these words, keywords and expressions is the freedom of choice and the ability with which each one of us operates in order to describe the landscape and reach satisfaction and emotion.

2. The analytical and empirical treatment of the rural area's force of expression

The elements of contact and socialising with the space emphasise its emblematic character, the memory of the place, its identity, including an urban identity through *symbolic representations*, so that the part that represents the quintessence of the spatial assembly is reinforced (Dixon, 2009).

The representation of the rural area through all the elements that create its identity (elements that come from various sources) is more sensible. One of these sources of identity is the *iconic cultural character* of certain floristic elements that attract many tourists (Sparks et al., 2012). Another source is *the image of the rural area*, based on the quality of accommodation and sustainability of rural tourism (McClinchey, 1999; Herman & Wendt, 2011). To these we add the *place `symbolisation* and creation of *community identity* through food and commercial manifestations based on food (Adema, 2006). The sites that have a cultural potential because of the *cultural heritage* of the ethnical groups (Jordan et al., 2009) represent an emblematic source of identity as well.

An *iconic image* of the villages and their surroundings can be supplied by *raising awareness of the past* through different elements, features or information about the past times that the rural went through, as a way of accepting changes in the appearance of that certain rural area (Hanley et al., 2009). Additionally, locals or tourists use a specific language to refer to the components of the rural environment from a historical perspective, thus building an *archetype of the symbolic space* (Kelvin, 2008), which, although it is a material environment, becomes a *symbolic rural landscape* (Carolino & Pinto-Correia, 2011). Beyond these objective considerations, there can be *socio-economic conflicts* caused by the pressure of tourists and city dwellers who wish to purchase estates of cultural value in the rural area (Hernik et al., 2013).

It is recommended that the ***rural landscape*** of different types – well-researched scientifically by different specialists – be a strong element that determines the identity and the iconic character of the rural environment. Through the *image of the landscape*, the landscape in general and the rural one in particular become a *destination image*, just like the combination of landscape and country music becomes a *capital of representations* of an area or of a rural space (Gibson & Davidson, 2004). Therefore, an *iconic landscape* can rely on other reference elements: the paleoecological wood-pasture system (Edwards & Grant, 2011), buildings (Wade, 2009), the absence of trees, as well as their plantation (Sherren et al., 2011) or pictorial representations of villages and human communities (Sulamith, 1999). This means that the aspects that govern the personality of a rural area lean towards understanding the *cultural services* provided by the ecosystems of the rural landscape (van Berkel & Verburg, 2014).

The rural offers the villager and the tourist the possibility to understand the benefit of *experiencing the rural landscape* (Lee, 2007; Rid et al., 2014), the villages as stable

entities from the point of view of their *residential function*, having a *productive and cultural vocation*, and finally of experiencing the *rural space as a cultural landscape*. A rural area with a strong *character*, of a powerful *expresiveness*, also appears in the studies that point to the *quality of the landscape's visual elements*, including those that mention the importance of the *rural buildings in the ensamble of rural ambiental design* (Tassinari & Torreggiani, 2006). This leads to a *logical idealisation of the rural landscape and rural life*. The rural environment was researched from a psychoanalytical perspective as well; thus, the rural area is understood as a secluded, unique, tangible and emotional place, of a bewildering intensity, sensual because of its quality image, and capable of healing in case of trauma (Averill, 2007).

A natural and logical connection between the characteristics of the rural-agricultural landscape and the *rural place branding process* has been scientifically researched in Belgium (Mettepenningen et al., 2012), where rural tourism needs recognition based on the qualitative attributes of the personality of the rural area.

The purpose of the study

A rural space with a powerful ethno-geographical expression, such as that dominated by the Transylvanian Saxon fortified churches, should be more than a historical entity (Ţiplic, 2006) or a small touristic destination with cultural characteristics (Mălăescu et al., 2010; Neguţ & Neacşu, 2011; Stăncioiu et al., 2011; Corsale & Iorio, 2014). This study sets out to identify the *indicators* (elements, objects) and the *attributes* (characteristics), as well as their position in *defining the personality* of this Transylvanian rural area. At the same time, it is intended that the results of the study be an *exercise* that allows any geographical space with more or less iconic and symbolic load to be more easily understood by a viewer or tourist, and even useful to specialists in branding strategies. The idealisation of the rural space by means of creating a powerful image and identity of the place in the villager or tourist's consciousness (Hoggart, 1997) becomes a noble purpose. The rural environment in Romania becomes more and more interesting for tourists and certain studies anticipate the future of rural communities, as more touristic value is added to attractive rural landscapes (Ghişa et al., 2011).

Location and elements of the study area

This study refers to a small geographical area in central-south Transylvania (Figure 1C), where two emblematic Romanian (Figure 1B) rural areas – the Biertan and Saschiz villages (Figure 1A) – are situated. They have inherited general features and details, typical of the rural area situated between Târnavelor Plateau and Hârtibaciului Plateau, in southern Transylvania. This region is crossed by streams, tributaries of Târnava Mare and Hârtibaciu rivers (Figure 1A).

The villages and fields in this area are set on rolling hills with round, elongated ridge lines that almost take a plateau shape (Figure 2 and Figure 3). The angles of the valleys' slopes range between 30 and 45 degrees. The average altitude difference between the lower parts and the interfluve is 110-120 m and it rarely exceeds 200 m. The average distance between the highest hills (500-570 m) around the villages is 1,2-1,8 km in the case of Biertan and 2,6-3,2 km for Saschiz (Figures 2 and Figure 3). The two villages are linear; their shape is influenced by the shape of the valleys that cross the villages and are drained by two rivers – the Biertan and Valea Scroafei.

The orographic prominences of each village endorse not only the beauty of the landscape, but also the livelihood in the two villages and the ways the fields are used. On the tall flat top hills, as well as along the elongated ridges, there are thick, healthy young deciduous forests, predominantly of beech and hornbeam trees, and some pine trees

(Figure 5). The soil on the hillsides with high or low declivity is argillaceous, heavy textured and structured, but dynamically stable, of medium and medium-low fertility. This type of soil allows for the development of both spontaneous flora (clusters, lines or small islands of shrubs) and plants used for fodder (20-30 cm high), of good bioproductive quality. Vegetation is also present in the locals' small gardens, in the fields as crops, vineyards and fodder crops and on the less steep hills as fruit trees (Figure 5).

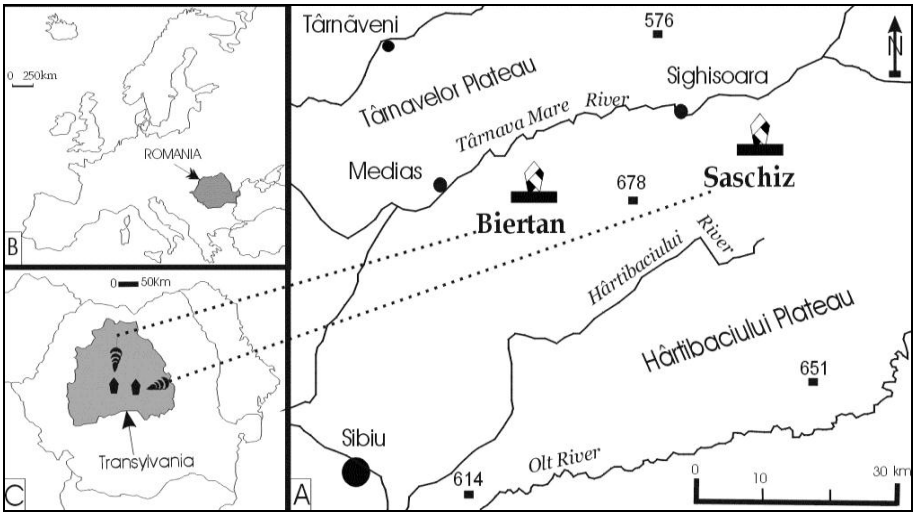


Figure 1. Location of the two rural areas – geographical detail of plateau units in Transylvania (A); the location of the two villages in centre-south Transylvania (C)

Research methods

The research for this study was based on three methodologies. a) First of all, the theoretical, terminological and empirical approaches required by this study were identified in the scientific literature. b) The second level of research refers to the examination of the study area. This process consisted of identifying the geomorphologic and phytogeographic features, the style and details of the rural architecture, of thoroughly getting acquainted with the rural cadastre, of distinguishing the methods used to work the land and identifying other relevant ethno-historical details. c) The third methodology refers to the study of the photographic materials and the clear identification of the features and elements that form the identity of the place. This is based on the geometrical systematisation of the layers, on the disparate components and the ethno-historical-urbanistic symbols, all caught in the image of the landscape. The final process that helps in the identification of this rural area's personality is the analysis of the local rural landscapes (Dupont et al., 2011) using a structural and a functional approach, one based on visual elements (following the model of Klinkers, 1995) and an analysis of special features.

The general and the particular in identifying the personality of the rural area

Anyone can ask themselves what exactly gives quality to a rural landscape. The simple answer lies in the orientation of the analysis from the general to the particular (Powell, 1985, p. 75); therefore, by getting acquainted with the physical features of the scenery one discovers the *landscape's value* (Brown & Brabyn, 2012) and identifying

them allows for the appreciation of the *rural landscape's visual qualities*, which contributes to national and local pride formation (Gruffudd, 1989, p. 6).

An *iconic landscape*, either part of the study area or from somewhere else, is based on an *iconic image*, whose perception is related to the combination of place, space, identity, nationalism, history and memory (Neville, 2003). To put it in simple terms, we can get to know a village by looking at its defining features, such as: the houses with enclosed courtyards and oversized sculpted wooden gates, the countryside gravel roads, the hay cut by scythe, the horses and carts, the farms, the neighbouring wooded fields (Wood, 2006). Another way of looking at the spatial organisation of the rural area is based on analysing the density of the component parts of the uncultivated landscape, the number of planted plots in one hectare, the diversity of land uses and the medium size of the fields (Levin, 2007).

The results of the iconic and emblematic expression of the researched rural area

The *image of the researched rural area*, the image of an environment that has been wisely transformed, a real product of the Transylvanian Saxon and Romanian community's way of life, is revealed to any observer starting with the simple features and then moving on to the more complex ones. These features of the components of these two villages provide a basic understanding of the rural area's composition, expressed through the *iconic* and *symbolic* characteristics. 19 elements were identified as indicators of the ***personality*** of these two rural areas. Their grouping and analysis was made based on the powerful impact that they have over the landscapes' morphology, their natural appearance and their degree of anthropisation (Tables 1, 2, 3 and 4).

The ***structural approach*** emphasises the analysis of the two villages' heritage, identifying the most relevant natural elements or those influenced by humans. These elements create energy and substance and their disposal horizontally or vertically has an influence in sketching the landscape's personality. Finally, the sketch of the landscape's personality – derived from its structure – is made of layers of elements or groups of elements, laid almost symmetrically in the landscape. The landscape's morphology (Table 1) shows that there are only four indicators (elements) between the lowest and the highest point of the landscape.

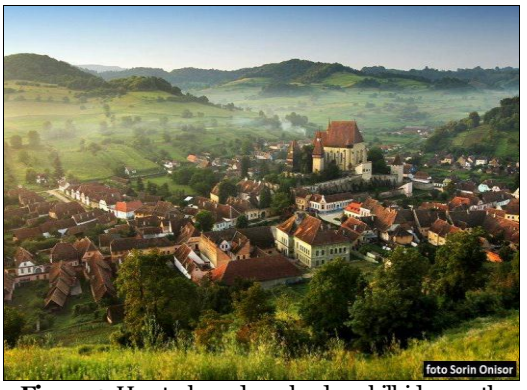


Figure 2. Haystacks and croplands on hillsides, gently sloping towards the Biertan village (source photo: S. Onisor)

Figure 3. Croplands perpendicular and parallel to the Saschiz village

The most present, frequent and potent of these indicators (elements) from an observational point of view are the hillsides (prolonged, with slope angles that range

between 30 and 45 degrees – Figures 2, 4 and 5) and the ridges (rounded, almost flat, they run in the S-N direction, parallel to the main valleys – Figures 4, 5 and 7). The four natural elements (Table 2) are the first echelon of the armour represented by the landscapes of each of the two rural areas included in this study. By extension and by the robustness of their physical expression, the forests, hayfields, pastures, shrubs and the two streams complete the geometrically well-balanced mosaic of landscapes (Figures 4, Figures 5). The anthropicised natural elements (Table 3) complete the emblematic rural heritage of the area. From ploughed and cultivated fields to gardens (Figures 3, 4, 5 and 6), two features are emphasised: the expressiveness of the natural part and the connection of these elements to their use and the local way of life.

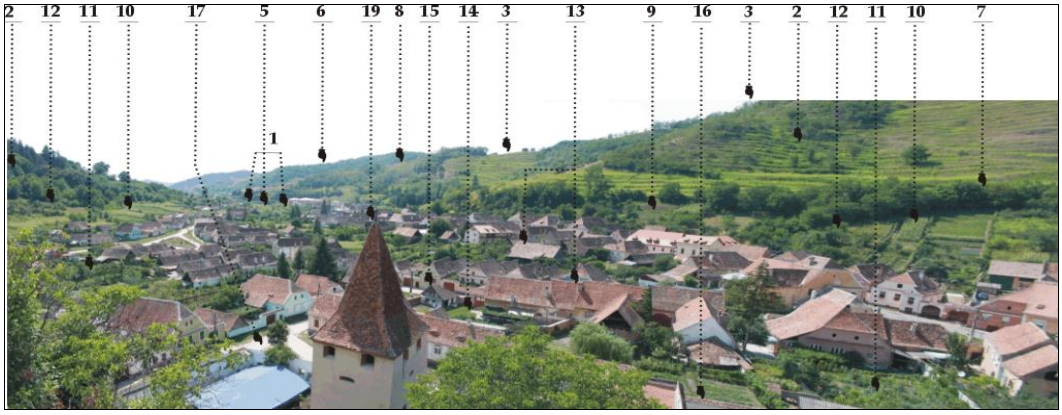


Figure 4. Biertan – panoramic view which captures the personality of the rural area: the village and its surroundings are situated in the centre, dominated by the medieval church steeple (the numbers point out the indicators/elements in Tables 1, 2, 3 and 4)

The anthropic elements, the most abundant ones (Table 4), complete this emblematic rural space. They reunite indicators (elements) related to the individual habitat – including the annexes: sheds, haylofts and stables (Figures 4 and 6) – and to the medieval fortified churches, alongside the rural infrastructure (Figures 2, 3 and 6).

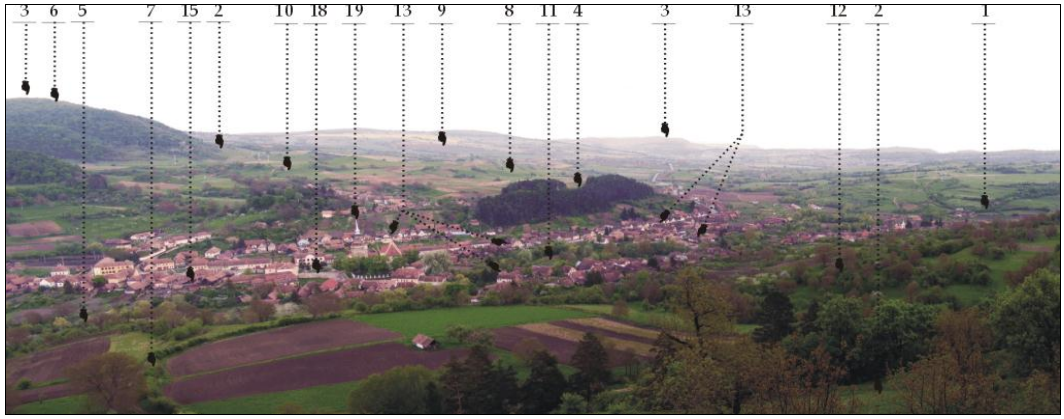


Figure 5. Saschiz – panoramic view where the hilly relief merges with cultivated and spontaneous vegetation, and the traditional individual habitat is centralised around the fortified churches (the numbers point out the indicators / elements in Tables 1, 2, 3 and 4)

Table 1. Personality of the landscape emphasized by the iconic and symbolic character of its elements. The situation of natural elements

Iconic							symbolic
The landscape's morphology	Indicator/element	No.	**Structural approach**	**Functional approach**	**Approach based on visual elements**	**sketch of the indicator's symbol**	
		1	valleys	- elongated with gentle slopes - strongly eroded vertically and moderately eroded horizontally - situated on the central axis of the village - have narrow meadows, embankments and shoulders of embankments	- wide curvy line that connects the extremities - visual axis of 2-5 km		- line that is very noticeable - line that comes to life - a 'narrow and long' nature
		2	hillsides/ slopes	- steep slopes in the upper half - gentle sloping towards the embankments in the lower half - artificial embankments on the steep hillsides - stable rock deposits (there are only small landslides in Biertan)	- homogenous appearance - lines (the artificial embankments) and irregular polygons (groves and groups of shrubs) - elevation angles (as seen from the village) and angles of depression (as seen from the hillsides) of 30-40 degrees		- the climb from the 'lower' world to the 'upper' world - place that invites to conquest
		3	ridges/ interfluves	- rounded and elongated - not very active, stable from the point of view of surface dynamics and superficial deposits (no geomorphologic risk)	- curved planes - the visual axis that run in the N-S direction are a few kilometres long, those that run in the E-W direction are 1-3 km long - maximum aperture angles - elevation angles (as seen from the village) and angles of depression (as seen from the ridges) of 40-50 degrees - broad, wavy lines of visual force		- calm, energy - giants asleep, protecting the village and its people from 2-3 sides
		4	small hills (especially in the case of Saschiz village)	- witnesses of erosion, they present themselves as elevated parts of the valley and function as separate islands from a geomorphologic, phyto and zoocenotic point of view	- irregular solid bodies - curved lines of visual force with a limited path; - wide visual axis and aperture angles		- silent spectators to the village's development

The ***functional approach*** emphasises the features that define the connection between the nature, structure and orientation of the landscape's elements (the

phenomena associated to their functioning). The landscape's morphology (Table 1) illustrates the specificity of elongated, rounded shapes, which have a gentle slope and hillocks. These all point to a controllable dynamic, as the landscape's morphology suggests that it is suitable for living, it provides the necessary resources for feeding animals and a healthy environment for cultivated and spontaneous vegetation. As shown in Table 2, the natural elements function according to normal ecological parameters, which is reflected in the graceful presence and evolution of the landscape's elements : the streams have low stream flow, a smooth streambed and low hydrological risk, and even the spontaneous vegetation grows according to the appropriate biocoenoses (the trees, wild shrubs, the grass in hayfields and pastures develop harmoniously, protecting the soil and providing an appropriate amount of organic matter).

As for the anthropicised natural elements (Table 3), although they are scattered around and do not benefit from a favourable agrochemical environment (the soil is relatively heavy textured, the air and water supply and the accumulation of organic matter are relatively challenging), they adapt and ensure an encouraging level of bioproductivity, enough for the use of locals and sale of the surpluses. The anthropic elements (Table 4) are functionally defined first of all by the valuable original architecture, specific to the landscape (Călugăr et al., 2012, p. 193). Other functional aspects are derived from: the age of the traditional houses and fortified churches (their old age gives the place a special, rustic charm), the adaptation by elongation of the individual habitat and infrastructure (the courtyards, the masonry fences, the village square and the small, rustic streets – Figure 8) to the relief and therefore to the increasingly smaller area available for the development of the village, and from the occupations and workload that adapted to new conditions.

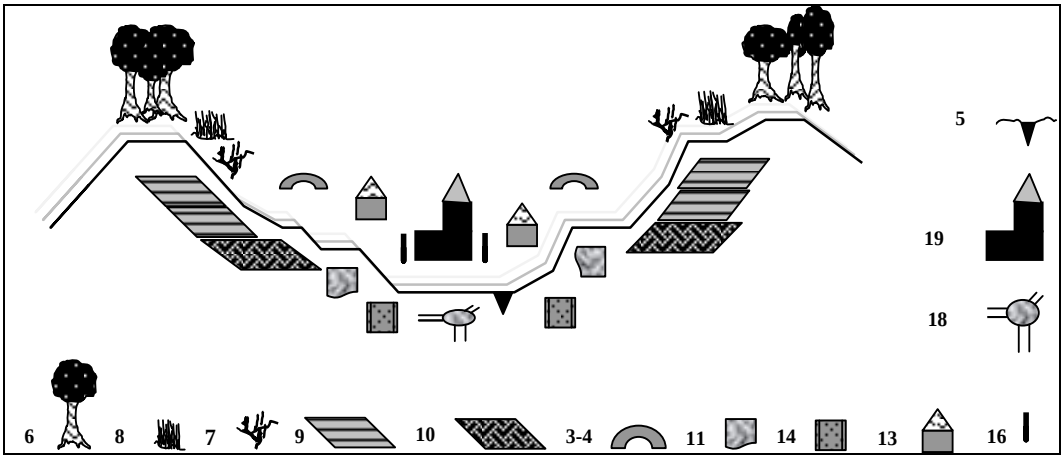


Figure 7. Crosscut profile that shows the emblematic elements of the two villages (the numbers point out the indicators/elements in Tables 1, 2, 3 and 4)

The ***approach based on visual elements*** takes into consideration the viewer's type of reception, that is to say it filters the whole landscape and its details through its visual characteristics. These explain most of the two rural areas' personality, as the viewer is able to analyse the landscape based on the characteristics of a single element or of a group of elements. The positive or negative relief (Figure 7) remains in the viewer's memory who sees it either from down below (in the village), or from up the hills, as an image dominated by curved, wavy lines, curved planes and lines of visual force, irregular bodies, visual axis and large aperture, elevation and perspective angles.

The natural elements of the two Transylvanian villages are important in terms of image because of their masses, shapes, bodies and structural axis, different textures and homogenous chromatics. The anthropicised natural elements have regular geometrical shapes, their setting is imposed by the relief, the planes and points are typologically limited, and the range of textures and colours is wide.

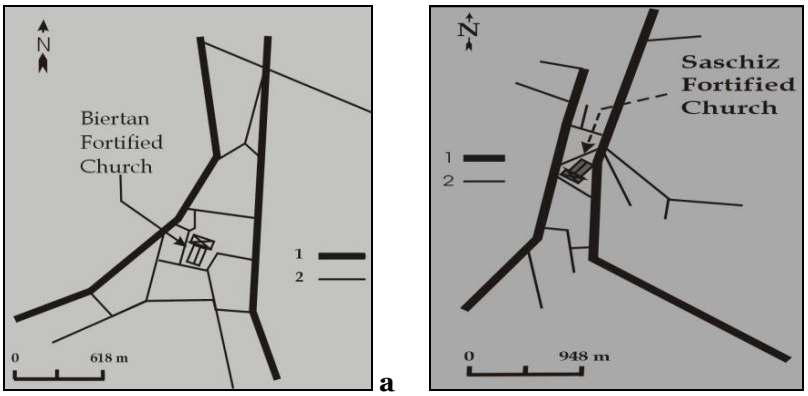


Figure 8. The road maps and the position of fortified churches in Biertan (a) and Saschiz (b)
Legend: 1. main roads; 2. secondary roads (rustic lanes)

The anthropic elements can be understood by looking at: prismatic bodies, dominant elements of attraction, lines of visual force - limited as spread, structural axis, degree of visual obstruction, visual axis, aperture angles and corridors – limited in terms of space, smooth textures and sober chromatics.

The analysis of special aspects, strictly related to the researched area, is an atypical approach. The following elements have been identified as easy to recognise and associate with the personality of the place:

- *the Transylvanian Saxon spirit*; *Houses* [placed in rows, they resemble 'small fortresses', they look alike and take after the Franconian house inspired by Romanesque architecture (Călugăr et al., 2012, p. 193)], *courtyards* and *narrow streets* form a perfect urbanistic symbiosis;
- a *fertile mix of rural and medieval* in almost all details and in the landscape as a whole;
- the annexes of some houses where *the old custom of making hops* is still kept (Călugăr et al., 2012, p. 193);
- *the Rhubarb festival* (in Saschiz);
- *toponyms*: the name of Biertan comes from Bierthalm, which in the Saxon dialect means 'Berth's hill' (website 2).

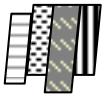
Just as these three approaches to analysing the iconic character of the rural areas contribute to outlining the personality of the landscapes, the symbolic characteristics of these places also contribute to it. Between the act of representation of an element's symbol and that of familiarising oneself with the place's emblem there is a moment of schematic reception in the viewer's mind. The image of these elements of the landscape will stay with the tourist or visitor. To be more precise, the fact that the two researched landscapes share the common features identified through the three methodological approaches means that the image will be dominated by geometrical symbols (planes, points, lines, textures) and shapes that suggest the almost real form of the elements (Table 1, Table 2, Table 3 and Table 4). Finally, being in contact, being face to face with

the landscapes of the two villages and their elements is beneficial in the sense that it allows for a simple recognition of the place's symbols (Table 1, Table 2, Table 3 and Table 4). The landscapes that are dominated by each indicator (element), bring into focus their symbolic character, which includes aesthetical values derived from the force of the local nature and positive emotional reactions (Tables 1, 2, 3 and 4).

Table 2. Personality of the landscape emphasized by the iconic and symbolic character of its elements. The situation of natural elements which reflect naturalness and their use

		Iconic					symbolic
Natural elements	Indicator/element	No.	**Structural approach**	**Functional approach**	**Approach based on visual elements**	**sketch of the indicator's symbol**	
		5	streams	- low volume of water - low flow rate, with few rapids and gentle course changes - hygrophilous vegetation on the embankments (willows, alder groves, riverside coppice plants)	- line that separates neighbouring bodies - meandering axis - corridor - low luminosity		- course - Where does the line lead? - search and finding again - the murmur of water is pleasant to listen to
		6	forests	- forests, groves and groups of trees (young or mature, deciduous, of medium size, 15-17 m high) with 2-3 floors and 0,6-0,7 coverage; their role is to protect the soil - they maintain a well-balanced biocenosis, dominated by birds and herbivores - provide wood for the villagers	- homogenous mass - wavy planes - delicate to rough textures - vigorous structural axis (trees) - permanent visual obstruction (as seen from the tree line) and apparent (as seen from inside the forest)		- draw the eye and spirit's attention - subtle domination of the rural area
		7	shrubs and hedgerows	- groups (along a few square meters) and natural alignments (hundreds of meters) of great physiological vigour, that separate the fields and function as biotopes for the small wildlife, as they are very dense	- curved and straight lines, of variable width (0,5-4 m) - groups of irregular shapes - an alive weave of different elements		- adds to the naturalness and ambiance
		8	meadows and pastures	- meadows have high bioproductivity (a 0,3-0,4 m high carpet made of graminaceae and leguminous plants, which are adapted to argillaceous soil) -the pastures cover smaller areas, they are well-cared for, but dry out in summer	- mosaic of patches that are chromatically homogenous - geometrical aspect of the surfaces - 30-40 degrees angles of elevation (as seen from the village)		- pastoral ambiance coming from the combination grass-flock-shepherd

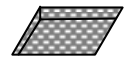
Table 3. Personality of the landscape emphasized by the iconic and symbolic character of its elements. The situation of anthropicised natural elements

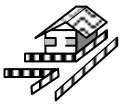
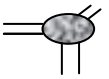
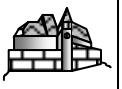
iconic							symbolic
Anthropicised natural elements	Indicator/element	No.	**Structural approach**	**Functional approach**	**Approach based on visual elements**	**sketch of the indicator's symbol**	
		9	ploughed fields	- agricultural land - their soil is argillaceous, has organic matter and a satisfactory level of water and air - good for planting cereal and plants for fodder	- regular geometric shapes perpendicular or parallel to the long axis of the villages - it looks like there are parts missing from the green blanket - combination of textures and colours - planes of different shapes		- rhythm - ploughed land and its moist smell - they show the locals' diligence
		10	cultivated fields	- fields used for agriculture that are occupied with crops - have the same agropedological characteristics as the ploughed fields	- regular geometric shapes perpendicular or parallel to the long axis of the villages - delicate texture - homogenous chromatics		- the green or the dominant yellow's bucolic character
		11	gardens	- they host subsistence cultures, part of which is sold (vegetables, greens, flowers, fruit) - the plants are lined up in green and colourful rows (the greens and vegetables) or in smaller groups (especially the vegetables), organised in small polygonal structures (planting bed type) - between the planting beds there are narrow footpaths	- planes clearly defined by masonry fences or fences made of other materials - partial visual obstruction (because of the fences) or apparent obstruction (in the case of low fences or fences made of net) - planes (planting beds) and colourful dots (plants)		- situated behind or on the lateral side of the house - unit of a geometric shape - the diversity of cultivated plants
		12	fruit trees	- young and mature trees close to each other, that set the boundaries of the plots in the village's surroundings; they are present from place to place or grouped as part of the plots - good bioproductive capacity they provide the fruit necessary for private consumption as well as for sale (apples, plums, walnuts, pears)	- dots (isolated trees), lines (lines of trees) and irregular planes (groups of trees) - chromatic diversity and romantic ambiance (picking fruit in autumn)		- creating texture and a mosaic on the hillsides - access to tasty fruit

CONCLUSION

In the two researched villages, the fortified churches create context, as well as a pretext for a specific type of rural ambiance that has a unique rural composition: closely-tied elongated mix of land-related and urbanistic elements, where the hilly relief reveals itself and centres the elements of the village (Figure 7).

Table 4. Personality of the landscape emphasized by the iconic and symbolic character of its elements. The situation of anthropic elements

		iconic					symbolic
Anthropic elements	Indicator/element	No.	**Structural approach**	**Functional approach**	**Approach based on visual elements**	**sketch of the indicator's symbol**	
		13	traditional houses	- based on the model of the Franconian house with Romanesque influences - they have a steep gable roof, made of fish scale tiles so that the water is easily drained - long lasting foundation and walls; 'wagon'-type interior layout – 2-4 rooms used by a family of 4-6 people - the front of the house faces the rustic lanes or the footpaths - the houses do not have many decorations and the colours are mostly neutral, which gives them a sober look	- the main attraction - 2-3 prisms (1. the roof and the loft; 2-3. the inhabited part of the house and in some cases another wing) - well-structured axis (the ridges of the houses and the edges of the windows) - dots, lines, geometrical shapes, raised patterns (details in the facades)		- rigour in simplicity - simple shapes - restful colours - perpetuating a medieval architectural model - the order of the settlement
		14	rustic courtyards	- a closed domestic space, situated between the house and the garden, separated from the exterior by high walls and wide gates - their functions are: of representation of the owner's work, of reception and orientation towards the other spaces of the homestead	- planes clearly separated by masonry fences or fences made of other materials - partial visual obstruction (because of the fence) - limited visual axis and aperture angles		- order in the geometrical shape - perfect adaptation to the limited space of the village
		15	annexes	- elements aligned at the back of the house and on its opposite side (sheds, haylofts, stables, summer kitchens, small workshops), which separate the house from the garden - the harvest is deposited here, as well as all the agricultural machinery, tools and construction materials - they also provide shelter for the owner's animals	- small regular bodies in a small enclosed space - adaptation to the specific Transylvanian traditional architecture		- rhythm - balance - unity in the diversity of the construction of the rustic building - proportion

		16	masonry fences	- 1,8-2 m high, they usually enclose old houses - the fence is as wide as a brick, plastered and painted it has a small roof in the upper side made of fish scale tiles	- permanent visual obstruction (as seen from in front of the fence) - thick weaved lines or pieces of a puzzle (as seen from above)		- rhythm - continuity - they complete the unity
		17	streets/rustic lanes	- except for the main street, all the others are 4-6 m wide; the space used by pedestrians is covered with grass - they are mostly dirt roads, in some cases covered with gravel; they are used by people, animals, carts and even cars	- corridor - visual axis a few hundred meters long; - delicate texture at the basis - generally cold chromatics (earth grey for the unpaved rustic lanes, dark grey for the paved ones)		- they cover the visual field - orientation - perspective - attachment to the built element
		18	central squares	- paved or with lawns, they are placed in the village centre - opened towards the N and N-W; they cover an area of around 3 ha - 4-5 entrances/exits which tie the centre of the village to all the other parts of the village	- plane and limited areas - delicate textures at the basis - partial visual obstruction because of the surrounding buildings - visual axis a few hundred meters long - wide aperture angles		- connectivity and balance between the reception and the appreciation of the place's spirit
		19	fortified churches	- places of worship in a Late Gothic and Baroque style - they are defended by walls, towers and medieval strongholds - in the case of fortified churches, the urbanistic side, the ecclesiastic one and the defence one come together in a harmonious way	- element of attraction - vigorous architectural ensemble - prisms one on top of the other - sober chromatic range - lines of visual force that change their orientation		- reference point - energy - majestic - sobriety - mystery

The sketch of the local rural organisation shows a simple network of houses aligned along narrow streets that enclose a central square, dominated by an imposing medieval place of worship – a fortified church which is defended by walls, towers and strongholds (website 1, website 2). The details of the two researched landscapes are defined by a strong Transylvanian Saxon influence, while other elements have their own particularities; for example the rustic homesteads, 'enclosed' by tall walls, with high and sober gates that discreetly 'hide' the courtyard. In the courtyard, the annexes are aligned at the back, on the side or opposite the house, separating the courtyard from the garden (which usually has around 200-300 square meters).

The same powerful expression is felt from the natural elements that organically participate in the rural composition. These seem to have a typical local order, as they are integrated in a mosaic-type structure in the highest part of the villages, or in its lower

parts. The personality of these two villages is decisively supported by that which can be visually or mentally retained by any viewer. The elements that are remembered fit symbolically in affective reactions (e.g. calm, finding oneself, coverage of the visual field etc.) and aesthetical values (e.g. invitation to conquest, bucolic character, order, rhythm, simplicity and unity in the diversity of the built element etc.).

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INDIGENOUS TOURISM IN THE AMAZON REGION OF SURINAME: ACTIONS TO PRESERVE AUTHENTICITY AND NATURAL RESOURCES

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Abstract: Indigenous tourism to the interior of Suriname started about 15 years ago and the sector is still growing. As an emergent tourism destination, the country is facing some complexities. The isolation that has protected Suriname's ecosystem, natural resources and indigenous cultures may come to an end, and actions to preserve these remarkable resources should soon be done; uncontrolled tourism can bring damage to both nature and culture. The paper focuses on indigenous themed tourism and explores the need and the opportunity for developing a destination, such as Suriname, to elaborate policies and procedures in order to promote sustainable tourism and to avoid commodification and falsification of indigenous culture, as it has occurred in some other countries.

Key words: Suriname, Indigenous tourism, Sustainable tourism, Maroons, Amerindians

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Theoretical background

Indigenous tourism refers to tourist activities in which indigenous people are directly involved either through control and/or by having their culture serve as the essence of the attraction (Hinch & Butler, 1996, 9; Hinch, 2004, 246).

Smith (1996) describes indigenous tourisms as a 'tourism which directly involves native people whose ethnicity is a tourist attraction' (p. 283). She uses a Four H scheme; habitat, heritage, history and handicraft[1]. Habitat is the geographical setting, namely the fragile places inhabited by indigenous people. These places are popular to tourists because of the uniqueness and the harshness of the landscape in which indigenous people live. Through heritage ethnographic traditions are meant, such as the values of the local community, their long-standing skills and knowledge to survive. History refers to the effects of acculturation, specifically to post-contact relation between the westerns and indigenous people. Handicrafts are important for tourists to bring back home and an important way to earn money for the local people (Sinclair, 2003, 143; Brouns, 2011, 4).

Tourism is seen as a major source of potential economic growth and independence for indigenous peoples. This is exemplified in the greater focus given in academic

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[1] The model is derived from the Four S concept (sun, sea, sand and sex) to describe the beach resort tourism

literature and in public policy to increasing the level of indigenous involvement in the tourism industry and the search for development options. Sometimes the rush to develop alternative forms of indigenous tourism results in dislocation of indigenous people (Piore, 2002; Sinclair, 2003) and can provoke the commodification of indigenous culture (Whithford et al., 2001). One of the keys for indigenous tourism seems to be the "Self-determination principle". This means that indigenous people should "set the terms for visitation to their traditional territories, as well as other third party uses of their collective cultural property" (Johnston, 2000, 91; Hinch, 2004, 253). According to Sinclair "Indigenous sovereignty must take precedence over any other imperative that drives to tourism operations" (Sinclair, 2003, 145).

To find ways to achieve economic growth through tourism while minimizing the potential negative impacts of tourism on indigenous communities, significant discussion has been given, in particular, to the achievement of sustainable development (see for example, Sofield, 1991, 1993; Altman & Finlayson, 1993; Li, 2000; McIntosh et al., 2002) and to the creation of a Community-based tourism (Andereck et al., 2005; Goodwin & Santilli, 2009).

METHODOLOGY AND KEY POINTS

The idea of this paper comes from various trips in Suriname where the opportunity to collaborate with some researchers of the University "Anthon De Kom" arose. Then, the meeting with Monique Pool, chairman of the Foundation "Green Heritage Fund Suriname", gave to the author the change to approach the indigenous themed tourism in the country and to collaborate at a tourism project into an indigenous village.

Fieldworks and tourist tours undertaken by the author in Amerindian and Maroon villages (in particular Kalabaskreek and Aurora) will supplement the knowledge already available from literature and the study object, as some aspects remain unknown if we stay behind the desk and observe the world and reality out of context (like museum objects) and never go into the field.

The results of this research will contribute to finding an answer to these questions:

- On what is based and how is managed the indigenous tourism in the interior of Suriname?
- What is the impact of tourism on indigenous communities?
- How can a community profit (more) from tourism projects?

To better answer to these questions, examples of tourism projects in indigenous villages will be presented. In particular the paper will focus on the small project in Kalebaskreek carried out by Green Heritage Fund Suriname.

As starting point it is important to define the term "indigenous people". In general, people that have historical continuity with pre-invasion and precolonial societies are considered as "indigenous". However for this discussion the term refers to pre-Columbians societies (Amerindians or Native Americans) as well as communities of Maroons, descendants of African slaves brought to Suriname from XVII to XIX centuries.

Indigenous tribes of Suriname: Maroons and Amerindians as tourism attraction

The country now called Suriname was invaded and settled by England in 1650, then traded to Holland in 1667 – for which England received Manhattan. Suriname developed into a prosperous colony producing sugar and later coffee, cacao, and cotton. Next to the English and Dutch planters, Sephardic Jews from Brazil and the Iberian Peninsula (Portugal and to a lesser extent Spain) were active in plantation agriculture (Arends, 2002, 118). Slavery was introduced in the beginning of the sixteenth century only to be

abolished in 1863. Between 1668 and 1823, approximately 300,000 to 325,000 African slaves, mostly from West Africa, were brought to Suriname (St-Hilaire, 2000, 113). However, at the end of this period there were only 50,000 people of African descent in Suriname (Price, 1976). Part of these slaves, fought themselves free by escaping from the plantations and, after waging protracted guerrilla wars, they established independent African tribes in the bush interior. Today more than 80.000 Maroons (formerly called "Bush Negroes") live in Suriname forming six main tribes, with the largest being the Saramaka and the Ndjuka[2]. These groups have maintained a large degree of political, socioeconomic, and territorial sovereignty within the nation-state.

Every Maroon group, except for the Kwinti, has a paramount chief (granman) and formal government (St-Hilaire, 2000). A Maroon village is inhabited by around 100 to 200 people (Price & Price 1999, 19). The villages are situated in the rainforest along rivers, important centers for their daily life. Along rivers they fish, wash, cook, and spend most of their community life. The subsistence of the Maroons is based on what the tropical forest has to offer, hunting and fishing as well as shifting horticulture, which was learned from the Amerindians (Thoden van Velzen & Hoogbergen, 2011, 3). Mitrasing (1979) observed that the Maroons are still living in an African atmosphere and under archaic conditions, despite many years of missionary activities, support and enlightenment. Ritual life is important and makes up part of daily life in this society. Ancestors, forest spirits, deities, and snake gods are incorporated into daily life. Communication with these powers is done through consultations of oracles, spirit possession, and the interpretation of dreams (Price & Price, 1980, 18; 1999, 20). Men serve as priests, whereas women can only serve as mediums for spirits (Price, 2003, 31). This part of African culture has vanished even in Africa and represents, together with their unique and traditional lifestyle, a strong tourism attraction.

Before the coming of the Europeans, Suriname was inhabited by at least three Indigenous nations: the Carib, Arowak, and Wayana people (Desales Affigne, 1997). Today there are eight different ethnic groups of Native Americans living in different groups – the most populous are Arowak, Carib, Trio and Wayana – and speaking at least nine distinct Amerindian languages (Carlin & Goethem, 2099). They represent only 4% of the total population of Suriname[3] and are divided into two different kind of tribes: those that inhabit lowland coastal areas, and the inhabitants of the interior or highland rainforest areas (O'Neill et al., 2006).

Lowland tribes have road access to towns and cities and tend to be more integrated into the multicultural framework of modern Suriname. Highland tribes (mostly Trio tribes) have been generally more isolated (and are still quite isolated from the social economic progress in the rest of Suriname). For instance their villages are reachable only by long, arduous overland journeys or by air. This is the main reason why the Highland tribes have maintained their cultural traditions intact into the present period, making it unique for Suriname and for the world.

Basso (1977) identifies some typical treats of these groups including very old shamanistic rituals (that involve curing), mirror-image or shadow conceptualization of the soul, and pan-village communal ceremonies that are secular and commemorative in nature. Indeed respect for nature is very important in their culture and they play an important role in maintaining the area's natural wealth. Recently there is a great interest for their use of medical plants and, together with archeologists, linguists or historians, medical scientists and researchers are focusing on subjects like Amerindian material

[2] The other tribal populations of the maroon group are: Matawai, Paramaka, Kwinti. and Aluku (Boni)
[3] According to the 2012 census, the total population is 534.189 (ABS 2013).

culture. Their knowledge on medical plants use and rituals, partly abandoned after a strong dissuasion of evangelical missionaries (O'Neill et al., 2006), must be retrieved and preserved as well as their cultural heritage. Also stakeholders operating in tourism sector have a great interest in Amerindian tribes and they are trying to develop and establish tourism activities deep in the Interior of Suriname.

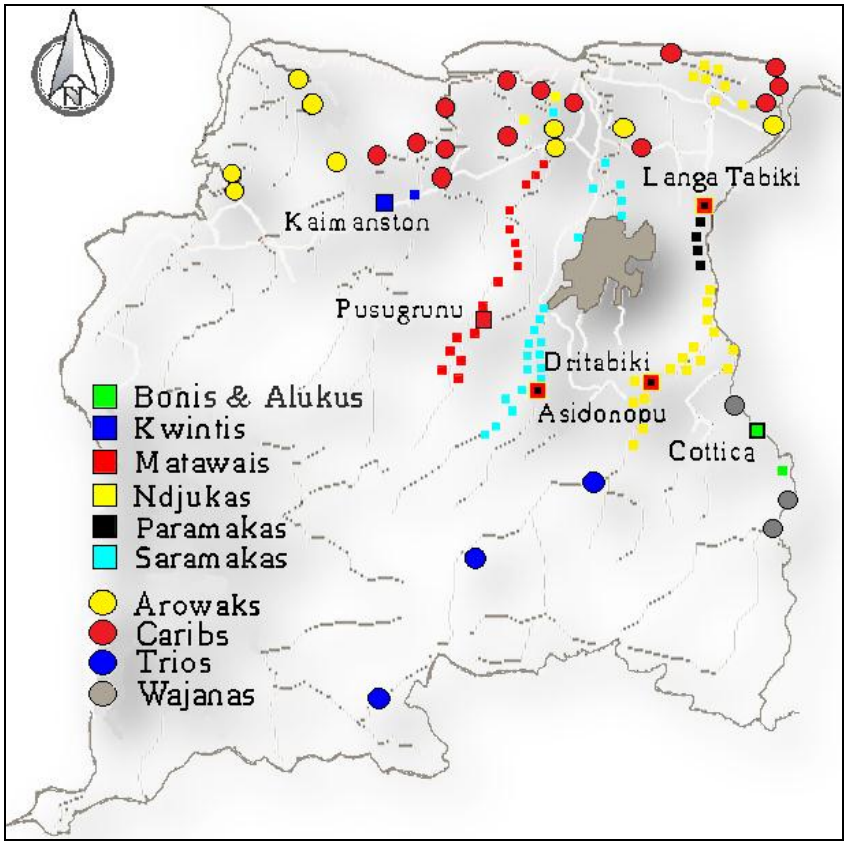

Figure 1: Sketch of indigenous villages in Suriname: □ Maroons ○ Amerindians
(Source: www.indigenouscaribbean.com, 2014)

Tourism in the interior: opportunities and challenges for indigenous communities

Destinations associated with the culture of indigenous people tend to be unique places, which can enrich the way tourists understand the world (Hinch, 2004, 246). Trying to escape urban life and landscapes, tourists are looking for the "other" and in many cases they are searching for the "primitive" as a way to develop an understanding of their own place in the world (Waitt, 1999).

Suriname possesses what would be a key attraction to a growing segment of the tourism market. Indigenous tourism in the country is still in a stage of involvement and development. Tourists are interested in the unique culture of the Maroons and the Native Americans; they have their own language, a unique ancestral and traditional lifestyle, a distinctive cultural organization of the community (e.g. endogamy and polygamy), music, dances and religious rituals.

More in general, Suriname's natural assets (Amazon forest, nature tours, large biodiversity, etc.) provide a big potential for tourism development. The tourism sector is already of importance for the Surinamese economy (income, jobs), although the country is still mainly visited by Dutch tourists. The country is a former Dutch colony[4] and an exotic location where the Dutch can speak their language and know more about the colonial period of their own motherland. However, Suriname is becoming popular to other tourists as well (Table 2); the Lonely Planet travel guide has made a list of the ten best destinations to visit in 2010, and Suriname is one of them[5].

According to the Algemeen Bureau voor de Statistiek, the Surinamese Statistics Administration, the country recorded 249,102 arrivals in 2013 with an increase of 59% over five years[6]. Visitors from Holland represent about 50% of total arrivals per year and they visit Suriname mostly for family reasons; indeed, in 2012 Surinamese living in Holland were about 350,000, of which the 47% are of second generation (Statistics Netherlands Integration Report, 2012)[7]. This means that the diasporic tourism component in the country is large and it plays an important role in acting and promoting cultural heritage tourism. For new tourist destinations diaspora tourists may be important for many reasons: as "first movers" to open new opportunities in the international market, as sources of valuable word-of-mouth advertising, and as investors in tourism or export trade (Newland et al., 2010).

It can be mentioned also that, as Pérez-López (2007) suggests, diaspora tourism may result in the geographic expansion of tourism within the country; diaspora tourists reach less-visited sites than do other international tourists by traveling to see friends and relatives, participating in cultural and sporting events, and visiting secondary or regional sites. In the specific case of Suriname a lot of local people have never visited the Interior of their own country; the tours are expensive and they are mainly made by diaspora (and/or foreign) visitors.

Table 1: Arrivals by Nationalities (%)
(Source: Algemeen Bureau voor de Statistiek in Suriname[8])

Total arrivals	2005	2006	2007	2008	2009	2010	2011
The Netherlands	58.5	59.9	62.3	58.6	53.9	49.7	44.5
Rest of Europe	3.7	4.2	4.3	4.6	4.4	4.2	4.5
Brazil	3.6	4.6	4.6	5.0	5.2	5.4	6.5
Guyana	8.2	9.9	8.2	8.9	12.4	14.9	15.0
French Guyana	12.4	9.4	8.2	9.3	9.7	11.7	13.7
Rest of South America	0.6	0.7	0.5	0.6	0.5	0.5	0.6
The Carabbean	5.9	5.1	5.9	5.9	7.0	6.6	6.6
North America	2.9	2.8	2.8	3.3	3.3	3.2	3.5
Rest of the World	3.9	3.3	2.9	3.5	2.9	3.2	3.9
Unknown	0.3	0.1	0.3	0.3	0.7	0.6	1.2

Usually the tours to the Upper Suriname are organized by tour operators situated in Paramaribo[9] and not by the inhabitants of the area visited. These tours take only a few

[4] Dutch Guyana (Suriname) achieved its independence from Holland in 1975 but, as a former colony of the Netherlands, the country still has cooperation with the Dutch.
[5] http://www.lonelyplanet.com/travel-tips-and-articles/15809
[6] in 2009 visitors in the country were 150,628.
[7] http://www.cbs.nl/NR/rdonlyres/CF430FF1-4623-4D60-B34B-CBE33749006A/0/2012b72pub.pdf
[8] http://www.statistics-suriname.org/index.php/statistieken/database/147-aangekomen-en-vertrokken-personen
[9] The city, often called the Wooden City for its colonial architecture of wooden structures and unique designs, is on the list of UNESCO World Heritage sites.

days and have to be made by bus and boat or by plane. The trips are often sold in package tours including drinks and food, accommodation, transport and activities. There are dozens of tour operators in Paramaribo; as tourism has a commercial nature it is not surprising that they have packaged the demand for indigenous culture and jungle experience into marketable products.

Very often the "eco"-resorts are not integrated in the villages and do not follow the traditional style; they result in dislocation with the community as tour operators create appropriate spaces for tourists. There is little space for contacts between visitors and local people and only few members of indigenous communities are employed in resorts (usually as dancers and local guides for tours in forests). As also Sinclair (2003) noticed, in Suriname tour operators have the not uncommon practice to take into indigenous communities boxed lunches purchased in the city that limits opportunity for the visitor to appreciate indigenous cuisine.

With such an external influence in managing the visits in the interior, the danger is that "the indigenous people are passive or even unwilling participants in tourism activities as they and their communities are presented as significant attractions in the tourism landscape by external stakeholders" (Hinch, 2004, 247). In addition, the commodification of indigenous culture may provoke the loss of authenticity and sustainability (Whitford et al., 2001; Hinch, 2004). Indeed the mechanisms by which tourism alters culture and identity are debated. Some authors have shown that tourism can lead to a renaissance of native culture by instilling new pride in local communities (Grunewald, 2002; Ingles, 2001; Van den Berghe & Keyes, 1984) or by encouraging creative forms of self-representation (Bendix, 1989; Cohen, 1979, 1988; Evans-Pritchard, 1989; Stronza, 2008). In the case of Suriname a fairly large number of people have recently moved away from the interior of the country in search of jobs and schooling. This migration is gradually corroding both Maroon and Amerindian distinctiveness. Tourism may be a tool to stop this trend as tourism offers jobs close to home and may preserve, in some way, the authenticity of these tribal societies.

The question is more about the economic involvement in tourism of indigenous communities. People in Paramaribo earn much more from tourism to the interior than people living there and often the tour operators do not manage the negative consequences on the local community and the environment. Indigenous community members need to be involved in tourism in order to profit economically from it. They should be also involved in decisions concerning the number, duration, frequency and schedules of visits, locations to be visited, the payment of visitor fees, the location of visitor accommodations (Sinclair, 2003, 145). For this purpose the communities need financial and technical assistance to train its members in tourism product development, marketing and operations and to procure essential materials and equipment necessary to promote a more sustainable form of tourism.

Surinamese government sees the tourism sector as an important tool for economic development and has serious plans for promoting sustainable tourism. In government policies regarding tourism the vulnerable environment and the unique indigenous cultures should be taken into account. In this respect, the semi-governmental organization, Stichting Toerisme Suriname (STS – Suriname Tourism Foundation), founded in 1996, aims to promote responsible tourism.

There is also an international interest in helping indigenous groups providing training and improving education needed to develop sustainable tourism in the interior. Most initiatives and projects in tourism are financed and implemented by the Inter-American Development Bank (IDB) and by the United Nations Development Programme (UNDP), especially through the Small Grants Programme Suriname.

In this regard, very successful is the IDB's support in ecotourism industry by promoting skills training for employment in the hospitality sector as well as a community based participation. Among others, the project in the small community of Kwamalasamutu is of great interest; the village is located very deep in the forest, in south western Suriname adjacent in the border areas of Brazil and Guyana . The community of Kwamalasamutu of 1,200 persons belongs to the Indian Trio people and it is physically isolated as the only transport connection with the outside is by small charter plane. As the economy was becoming subsistent, family members had started to work in Paramaribo or in the gold-mining in distant interior locations with the risk for the community to lose the integrity of its ancient indigenous culture and lifestyle. The IDB, together with Conservation International, helped the community to develop the first community-owned and community-managed lodge in Suriname where local people are involved in full respect of the precious nature and biodiversity of the rainforest around and where visitors can experience the authenticity of villagers' lifestyles (indeed they are put to sleep in hammocks under typical local thatched roof hut)[10].

Sustainable Tourism Project in Kalebaskreek

Next to the governmental and international projects there are a lot of non-governmental organizations (NGOs) and Foundations involved in tourism. In her research Brouns (2011) found many groups active in Suriname: development organizations (e.g. PAS - Pater Ahlbrinck Stichting), environmental organizations (e.g. Nimos Nature Institute), community based organizations (e.g. "Wan duumi moo didia" for preservation of the local culture in Kosindo and stichting Kajana), women's organizations (present in most villages) and academic institutions (e.g. Anton de Kom University). They all have a concern for the environmental setting of indigenous communities. Among them there is Green Heritage Fund Suriname (GHFS).

The GHFS is a charitable foundation that was set up in Suriname in October 2005. The foundation was established to fund activities that help promote the green image and cultural heritage of Suriname. Its main activities are the "Xenarthra Programme" – involved in the shelter, care, rehabilitation and release of sloths, armadillos and anteaters[11] (orphaned and distressed animals are adopted temporarily) – the "Dolphin Programme" – aiming to educate people about dolphin conservation and the protection of the population of wild dolphins in Suriname – and the "Culture and Communities Programme". Under this last activity, in 2013 the GHFS carried out a short tourism project in the Amerindian village of Kalebaskreek.

For the 180 inhabitants of this village along the banks of Coppename river, tourism and in particular eco-tourism represents the promise of more substantial revenue than what is currently obtained primarily through fishing and logging. For several years the local women's organization "Kupa Katong" has been active to create a sustainable livelihood, while at the same they were trying to increase awareness about environmental aspects and the rich biodiversity of the region they inhabit, because the income from other economic activities is declining.

From 2010 Kupa Katong has been starting to develop sustainable tourism in Kalabaskreek by approching the GHFS with the hope to learn how to better exploit the tourism potential of their community. Financed by Skafonds – a Dutch Foundation operating the Netherlands, the Caribbean part of the Kingdom and Suriname with the aim to create opportunities for people in vulnerable situations – the GHFS helped successfully

[10] More information about this project are available at www.iadb.org and visible at http://www.100procentzomer.nl/zomer/index.php/100-projects-mainmenu-37/7-100-projects/10-pro+ject-kwamalasamutu

[11] Xenathra is the order of animals that includes the sloths (2 species), armadillos (9 species) and anteaters (3 species).

the villagers to increase the tourism potential and to be indipendent in managing visits in their village. The project comprised of a training in tourism skills, including basic hospitality skills and cooking lessons (see figure 2).

The community members had already a lodge for tourists (figure 3) in their village but they needed to know how to manage it and what kind of activities to propose at their guests. GHFS identified the community as a good location for activities that should ultimately lead to sustainable tourism from which the indigenous community of Kalebaskreek would benefit, including activities such as spotting and watching dolphins, giant river otters, manatees and birds. Most of all, the volunteers of GHFS helped local people to realize that their culture has a very big value for tourists.

Figure 2. Cooking lesson in Kalebaskreek during the tourism training, year 2013
(Source: GHFS)

Figure 3. Traditional houses in Kalebaskreek
(Source: Kalebaskreek's facebook page)

As the culture of the village is becoming diluted, the local language is hardly spoken and the young people seem not be interested to learn local traditions; they had to be encouraged to valorize their dances and ancestral music and songs. There was also the need to revitalize the traditional handicrafts (figure 4) and to give assistance in order to raise the sale of products (for example to display them in a more attractive way for tourists by putting up nice looking shops and small markets).

Figure 4. Local handicraft stand
(Source: Kalebaskreek's facebook page)

At the end of the training a group of tourists was received for a tour that offered to the villagers the opportunity to receive feedbacks from the visitors. Through a questionnaire submitted by volunteers of GHFS, the local members of Kalebaskreek were able to know strengths and weaknesses of the tourism experience they propose, and to further improve hospitality, tourist facilities and activities. Today the community-based tourism in Kalebaskreek is able to receive independently tourists in a very eco-sustainable way, and to advertise the village without intermediaries (the community has its own facebook page or websites)[12].

Of course there are still some aspects to improve. What is often lacking in indigenous villages like Kalebaskreek is the knowledge of languages to communicate with international tourists as people still speak native languages or Dutch; more education is needed to learn English and in some cases to improve Ducth. Skanfonds is already preparing a longer project to further develop tourism and get it going.

Final remarks

Developing indigenous tourism in Suriname has several advantages. Since the economy in the interior is poor, tourism activities can be a tool for the local communities to profit economically by creating employment in that particular area. Currently the tours in the Amazon villages are packed by tour operators in Paramaribo with a very little space for the involvement of local people. Indigenous communities are often presented as a tourism attraction and this is provoking commodification and dilution of their cultures. The unique indigenous cultures of Maroons and Amerindians need to be preserved by minimizing the external influence and by considering the local sovereignty as an imperative. The creation of a community-based tourism should be a key for the indigenous tourism development.

However, in order for the communities to be involved in and profit from tourism more education and knowledge is needed. A lot of actors are involved, there are different options to raise the benefits of tourism and reduce the negative impact on local communities. International organizations, NGOs and government are aware that tourism training for local people must be guaranteed. In this respect they are carrying out some successful sustainable tourism projects in indigenous villages but much more work remains to be done. Following their arguments the future of indigenous tourism in Suriname, as well as in other countries, will highly depend on whether it will develop in the direction of a socially and environmentally responsible branch of the economy. In particular, in order to develop and promote sustainable tourism, all relevant stakeholders in Suriname have to: 1) support the integrity of the place; 2) conserve resources; 3) respect local culture and traditions. As tourism in the interior of Suriname is in a beginning stage some risks and problems, happened in some other indigenous communities all around the world, can still be prevented. For this purpose the study of indigenous people and tourism in Suriname need to be further investigated. Future research would also benefit from interviews with relevant stakeholders in Suriname.

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[12] For more details visit: http://rootsjourneys.blogspot.it/p/the-women-of-kalebaskreek.html

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ANALAYZING THE EFFECTIVE FACTORS ON TOURISM DEMAND IN ELGOLI JUNGLE PARK OF TABRIZ CITY, IRAN

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Abstract: This study aimed to estimate tourism demand function of Tabriz Elgoli Park in Iran by travelling costs pattern in the frame of household production function, and then effective factors of the issue are investigated. The method of study is based on the estimation of tourism production functions, final cost of travelling, and calculating the shadow price of tourism. According to the results of the study, time, distance and travel costs affect on tourism and the final cost of tourism is calculated as 3368825.7 Rials per day. Findings show that there is a positive relationship between tourism with travelers' income, quality of the park, educational level of visitors and a negative relationship with final cost (shadow price) of the tourism. The results of estimation model express that among all factors, the quality of park is the most effective factor in tourism demand. Therefore, any consideration of responsible people to the environmental quality of the park would increase tourist attraction, which leads to economical prosperity of the region.

Key words: Household production function, Tourism demand, Econometric model, Elgoli Park

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INTRODUCTION

Tourism industry is always considered as an appropriate choice to absorb economical incomes and an important source of employment. In fact, tourist attraction is an economical activity which has less posited limitations comparing services and goods production and in case of taking attention, this section would be profitable (Allan, 2015). Therefore, paying attention to environmental recourses and parks could lead to economical prosperity and employment increase. Among the environmental recourses, the parks play a vital role to increase welfare. People have usually no imaginations of environmental recourses except being free of costs. So, inattention to the costs of these recourses in decision making level would lead to chose liable policies. Tabriz is considered as one of the seven metropolises of Iran and the biggest city in north-western area. Tabriz'

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elevation range between 1,350 and 1,600 meters above sea level. The valley opens up into a plain that gently slopes down to the eastern shores of Lake Urmia, 60 kilometres (37 miles) to the west. With cold winters and temperate summers, the city is considered a summer resort. The city is famous for its handicrafts including hand-woven rugs and jewelry. It is known for locally made confectioneries, chocolates, dried nuts, and traditional food. Tabriz is also an academic hub and a site for some of the most prestigious academic and cultural institutes in the northwest of Iran (Haiati, 2012).

Urban parks of Tabriz form more than 30 percent of general green space of the city, which includes 134 small and big parks spreading along different zones (Amirnejad, 2012). Total area allocated for these parks is about 435 hectare which equals 3.18 square meters per person including the most effective recreational green lands of the city. According to historical documents of the city, Elgoli Park has been established in 1785 in east part of Tabriz. It has an square artificial lake surrounded by side walk in four sides. There is also a building in the middle of the lake, with traditional architecture of Iranian Azerbaijan. In South of the lake there is a hill covered by trees. Two beautiful stairways connecting the side walk to the top of the hill. At top of the hill there is a building with modern architecture (Hotel Pars building). The space of this park is 61 hectare and dimension of central lake is 20*20 meters (Haiati et al., 2012). Tabriz Elgoli Park accepts a numerous visitors and tourists both in holidays and regular days. In this survey, the effective factors of tourism demands in Tabriz Elgoli Park are being investigated. For this purpose, the function of demand for using the park is utilized. In tourism demand, the relationship between shadow prices and visitors income with the rate of tourism demand is investigated and finally, the relationship between park quality and educational level of people with tourism demand is analyzed.

The history of studying about the pattern travelling costs to parks and environmental resources goes back to Harold Hotelling studies in 1930 and 1947. This method was used in an exact way in 1967 by Clawson. In his article (1991), Gary Becker states that the satisfaction of a person from a non-marketing activity is a function of designated time, opportunity cost and environmental inputs that leads to utility from visiting a site, which is the household production function (Quant, 2013). Altogether, the value of an environmental resource is calculated according to the costs of a family while visiting a site (including the costs of accommodation, food, transportation and …) and costs of time opportunity. In this methodology, investigation approach is based on the preferences manifested by Samuelson. In his theory, Samuelson tries to exempt the behavior of consumer from the last signs of utility concept; and for this purpose, this theory is being limited to operational comparisons among value amounts. If the consumers prefer higher amount of goods to lower amount and chose only one certain basket of goods in any budgeting conditions and act compatibly in their successive choices, then they would purchase less amount of the goods which has an increased cost. Whereas their income increases, they would purchase more amounts of those goods. This is the generalized principle of demands, or as Samuelson says, the fundamental theory of consumers' behavior which includes all reasonable observable consequences of the indifference curves. Moreover, it has the advantage that consumers' preferences could be concluded from their observable behaviors, not the conversely.

The consumption hypothesis by Gary Becker became the basis for the following ideas in environmental economies and tourism industry. Based on the hypothetical frame of Gary Becker's model, Pajooyan introduced the function of tourism production in 1978 and according to a two-stage approach, estimated the shadow price of tourism. After Pajooyan, Han (1980) indicated that the value of travel time is 20 to 53 percent of gross income. Lee & Han (2009) estimated the tourism value of 5 five national parks in South

Korea to be about 11 dollars per family. Also, Mendez (2011) investigated the non-market value of urban parks in Valencia, Spain and he estimated the total value about 11945 pesetas annually. Contingent valuation method, Tobit model and half logarithm approaches are used to calculate the issue. In Iran, Naharli (2012) estimated the tourism value of Naderi City Park by Clawson method 1.59 million Rials. Mojabi and Monavari (2012) investigated and economically validated Tehran's Lavizan and Pardisan parks by Clawson method. In this study, the researchers draw the demand curve based on the maps and social and economical specifications of the parks' visitors.

Their estimation demonstrated that the recreational value of Pardisan Park was 78 million Rials and, it was 53 million Rials for Lavizan Park. Pajooyan and Falihi (2012) analyzed the economical value of Anzali pond. In this study, they utilized Gary Becker's household production function. The results show that the time, distance and travelling costs affect on tourism production. In this study, the final cost of tourism is estimated 1.1.00.000 Rials per day, which is the shadow price of tourism.

Also according to the research, tourism demand has a negative relationship with shadow price and a positive relationship with income. Amirnejad et al. (2012) determined recreational value of Tabriz's Elgoli Park by Contingent Valuation Method and binary choice questionnaire. After calculations, they estimated the willingness to pay as 359988 Rials per family and willingness to pay for all visitor families to utilize this complex as 224.99 million Rials per month.

Haiati et al. (2012) studied the factors which motivate visitors' willingness to pay for Elgoli and Mashrote Park in Tabriz city by applying two stages Heckman approach. The findings of this research shows that the effective variants for willingness to pay include time for each visit, monthly income, education and age of the visitors. In this study, the willingness to pay of each visitor is estimated to be 2231 Rials per visit.

MATERIALS AND METHODS

Assume that there is a consumer and environmental goods called the park. The park has a level of quality equal to (q) which has a positive effect on the number of visits (v) from the park (Pollak, 2011). Here, the person as a function of household production combines the time with market goods or environmental goods, and when the combination of time and environmental good forms, tourism becomes to have meaning and the consumer makes a choice among buying foods and services and visiting the park (v).

In this case, utility function is as following:

$$U = f\,(C_M, C_H, Z, Q) \tag{1}$$

Where U is the level of utility, C_M the final services and goods purchased from the market, Z the level of tourism. In which the function of household production is defined as:

$$C_H = f(X_H, t_H) \tag{2}$$

In this function, x_H the function of market goods and t_H the time spent to produce goods are combined. The function of tourism production in the park is defined as follows:

$$Z = f\,(Xz, Tz) \tag{3}$$

Where X_z is the goods and services required for travelling and using touristic space of the park. In this situation, time and budget limitation is as follows:

$$T = Th + Tz + Tw \tag{4}$$

$$p_m c_m + p_n x_n + p_z x_z + T_w w + T_z w = w T_w + Y \tag{5}$$

In the restriction of time and budget, y in the non-labor income, P_z the price of travelling, w the rate of wage, t_w the labor time and T the total time (except leisure time).Using Lagrange function is helpful to optimize the problem, so demand function for travel would be as follows:

$$Z = f(y, p_{zt}, q) \tag{6}$$

$$Y = t_w W + V \tag{7}$$

$$P_{zt} = P_z + (t_z W) \tag{8}$$

Equation (6) expresses function of demand for travel which is a function of total level of income, total price of travel (traveling cost and time opportunity cost) and park quality (Willis, 2012). It should be mentioned that the time opportunity cost is a product of travel time to wage rate. In this research, in addition to methodology based on the consumers' behavior and Becker's function of household production, the researchers used Pajooyan's methodology (1978), estimation of tourism production functions and total price calculation to calculate travel price which leads to shadow price of tourism. According to Becker's function of household production, it is assumed that none the goods and services purchased by consumer are neither final ones nor consumed directly, so in addition to the purchased goods and services, the consumer combines time input with market goods to have combined good production as result. Since the price of tourism services and goods might not be observable in the market, so in this part we use a two-stage method to extract the function of travel demand (Smith, 2011).

At the first stage, the function of combined goods and technology limitation is defined as follows:

$$Min \sum Pxi Xi + W \sum Ti \tag{9}$$

$$Sto: V(X.T) - V = 0 \tag{10}$$

Where (v) expresses the vector of combined goods, (x) the vector of market goods and (t) the vector of time input. Now, by using Lagrange function and assuming price acceptance for people, the function of demand for X and T would be as follows (Fleming, 2008):

$$Xi = f(Pxi, W, Vi) \tag{11}$$

$$Ti = f(W.Pxi, Vi) \tag{12}$$

Equation (11) is demand function for market goods which shows that the price of market good is affected by micro economical factors such as market price of the goods, received wages, and vector of combined goods. Equation (12) shows that the time spent for purchasing or demanding tourism is also affected by wages, market price of the goods and vector of combined goods directly.

Now, if we put the X and T in equation, the cost function would be resulted as follows:

$$C(Px.W, V) = \sum Pxi(X(Pxi, W, Vi)) + W \sum T(W, Pxi, Vi) \tag{13}$$

Bruzelius (2013) demonstrated that in case of lack of additional production, cost function could be written as:

$$C = (Pxi, W, Y) = C_r(Pxi, W, R) + C_z(Pxi, W, Z) \tag{14}$$

In the present situations, it is possible to calculate the shadow price of combined goods by partial derivative of cost function as follows:

$$\pi_R = f(Pxr, W, R) = \frac{\partial C}{\partial R} = MC_R \tag{15}$$

$$\pi_R = f(Pxr, W, Z) = \frac{\partial C}{\partial Z} = MC_Z \tag{16}$$

Where MC_R is the final cost of production R, and MC_Z is the final cost of production Z. So, by this method shadow price per day of travel to park is obtained. According to Pollak, shadow price is a function of goods price and wage rate and budget limitation can be defined as follows:

$$\pi_R R + \pi_Z Z = Y \tag{17}$$

In the second stage, the utility is maximized according to the considered budget.

By maximizing utility with regard to budget limitation, the function of tourism demand in Elgoli Park of Tabriz in Iran could be obtained as follows:

$$DR = D(\pi_R, \pi_Z, Y) \tag{18}$$

It is possible to assume a fixed rate for the price of other goods which leads to the assumption that the demand for tourism and travel to park is a function of tourism shadow price and income of traveler. If the production function is considered in the form of Gobb Douglas, then the model approaches to be a mathematical one. So:

$$R = AX_1^{\alpha 1} X_2^{\alpha 2} T^{\alpha 3} \tag{19}$$

In equation (19) a function with three variables is considered for tourisim and visiting the park in with the variables are independent and the required inputs are: personal car (X_1), other facilities for tourism (X_2) and the time spent (T) for tourism production. Now according to the findings of Willis (2012) it is possible to obtain cost function according to the double function of production. Here the total cost function will be a function of inputs' price:

$$TCR = KR^{\frac{1}{n}} W^{\frac{\alpha 3}{n}} p_1^{\frac{\alpha 1}{n}} p_2^{\frac{\alpha 2}{n}} \tag{20}$$

In the equation of tourism total cost, n is the return to scale parameter which equals to numerical addition of costs attractions. Here, the return to scale is considered to be constant. Also, in this function, the amount of K is as follows:

$$K = n(A\alpha_3^{\alpha 3} \alpha_1^{\alpha 1})^{\frac{-1}{n}} \tag{21}$$

In which the final cost of tourism or its shadow price would be as follows:

$$MC_r = \pi_r = \frac{\partial TCR}{\partial R} = KW^{\alpha 3} P_1^{\alpha 1} P_2^{\alpha 2} \tag{22}$$

Now, after determining shadow price of tourism, it is possible to determine the economical value of environmental resources and park. In this study, statistical data is calculated as an intersection by travelers visiting the park and a simple random sampling according to equation 23 (Turner, 2008).

$$n = \frac{Z_{\frac{\alpha}{2}}^2 \sigma^2}{a^2} \tag{23}$$

In this equation, the volume of optimized sample is under the effects of standard normal distribution, the variance of sample property for tourism, and maximum sampling error. Here, the variance of statistical society is determined from a primary sample and hen the statistical sample is calculated as follows:

$$n = \frac{(1.96)^2 600}{(3.4)^2} \approx 200 \quad (24)$$

RESULTS AND DISCUSSION

For this study, cause and effect method has been used. In other words, regression analysis has been established between variables of the survey. Nowadays, in economical analyses, a common approach to study an economical issue and measuring the relationships between its variables is using economy valuation and regression analyses (Greene, 2014). The statistical society of this survey consists of all visitors and users of Tabriz's Elgoli Park. In this method, using simple random sampling, some travelers were selected and the questions and data for model explanation were acquired from them. Using the production function of Gobb Douglas and OLS regression (Ordinary Least Squares) the results of tourism production function for Elgoli Park of Tabriz could be obtained in the following table as:

$$LnTOUP = 23.14 - 0.16LnV + 0.12LnS + 0.17LnZ + 0.11LnPF$$
$$t = (0.22) \quad (-9.2) \quad (5.1) \quad (2.14) \quad (2.13) \quad (25)$$

In this equation, V, S, and Z express the variants cost of using personal car, other inputs of travel (such as food and other costs required while touring), time spent for travelling respectively and Park facilities, which are regressed as a dependent variant on tourism production (TOUP). In order to measure these variants Rials prices of car renting (including fuel price and car amortization), food costs and other requirements of travel such as accommodation (as average) and the time a person spends in the park have been used. Furthermore, the amount of tourism is calculated in the form of time amount in which tourism services are served.

The model shows that the input of vehicle has a negative significant effect on TOUP (tourism production). Notice that the cost of vehicle expresses the distance between places of accommodation to Elgoli Park. So, it could be stated than by distance, the cost of fuel increases too. That is, this variant is a proxy for distance. The results of economy valuation model estimation show that by increasing the cost of vehicle, tourism production decreases. One percent increase in the cost of vehicle can decrease tourism production 0.16 percent. The coefficient of this variant is significant and in accordance with theoretical expectations.

Other inputs of travel (S) such as cost of foods and etc. have a positive effect on tourism production. One percent increase in the cost of other inputs can increase tourism production 0.12 percent.

The input of time (the time a person spends in the park for recreation) has a positive effect on tourism production. One percent increase in the cost of time input can increase tourism production 0.17 percent. The coefficient of this variant is statistically significant and in accordance with theoretical expectations.

The park facilities variabl has a positive effect on TOUP, So that one persent increase in the facilities Such as good weather conditions and environmental stability can increase tourism production 0.11 percent.

It is observed that the signs of tourism production attractions are in accordance with theoretical bases regarding the inputs of vehicle, time and other inputs. The t statistics are shown as independent variants and show significance of 95 percent validity in the coefficients of production inputs. The model's coefficient of determination is 0.94 percent and White test shows lack of heteroskedasticity. The value of Durbin-*Watson* statistics for estimated function is about 1.82 which shows lack of autocorrelation (Table 1 & 2).

Table1. Results of tourism production function (TOUP) estimation
(Data source: research findings)

Variables	Coefficient	T statistic
Ln V	- 0.16	-9.2
LnS	0.12	5.1
LnZ	0.17	2.14
LnPF	0.11	2.13
C	23.14	0.22
R^2= 0.94	DW=1.82	F= 123

Table 2. White test of tourism production function model
(Data source: research findings)

F-statistic	1.84	Probability	0.14
Obs*R-squared SS	7.69	Probability	0.15

Now we obtain the equation for marginal cost of tourism by Wallis. If we put the parameters of tourism production function, then,

$$MCTOUP = (23.14)^{-1}(0.16)^{0.16}(0.12)^{-0.12}(0.17)^{-0.17}(0.11)^{-0.11}P_{PF}^{\ 0.11}R_V^{\ -0.16}P_S^{\ 0.12}W^{0.17} \quad (26)$$

In order to calculate wage rate, total income of the person is divided by total work hours. According to the evaluations, the rate of wages per hour for visitors is 19750 Rials and the rate of wages per minute is 324.2 Rials. The average of other inputs is 1600 Rials and also the average of car rent is considered 850 Rials per hour. In the end with replacing the prices in the equation of marginal costs of TOUP, it is possible to obtain shadow price of tourism per minute. So, shadow price of travel per minute is 2538.8 Rials which equals 3468865.7 Rials for a day in year 2014.

Now if we multiply the shadow price of tourism to the number of park visitors, the value of park in this field could be obtained, which is 11106475000 Rials (assuming 40000 visitors). After estimating shadow price of tourism in park, the researches engaged with estimating tourism demand in the park. The findings from demand estimation are as follows:

$$\begin{aligned} LnDTOU &= 1.15 - 0.11LnSHP + 0.06LnI + 0.08LnEQ + 0.25LnEDU \\ t &= (0.94) \quad (-3.33) \quad (2.76) \quad (2.86) \quad (3.21) \end{aligned} \quad (27)$$

This presented logarithmic function of demand shows that according to demand law, the relationship between shadow price of tourism (SHP) with the amount of tourism demand is negative, whereas the relationship between income with tourism demand is positive, and the quality of park and educational level of people have a positive effect on tourism demand. The findings show that one percent increase in tourism shadow price (SHP) causes 0.11 percent decrease of tourism demand. Also, every one percent decrease of travelers' income leads to 0.06 percent decrease of tourism demand. And one percent increases in the quality of park causes 0.08 percent increase of tourism demand. One

percent increases in the educational level of people causes 0.25 percent increase of tourism demand as well. The presented regression model has high t statistics and all of the coefficients are significant in the level of 95 percent. The model has no heteroskedasticity, autocorrelation or multiple correlation coefficients, and the functional form of the model is correct, so the classical assumptions of economical valuation are applied. Durbin-Watson statistics are about 1.78 and F statistics value in White test is 0.67 which is not rejecting correlation variance assumption. The coefficient of model assignment is 0.93 percent which shows 93 percent of dependent variant changes (tourism demand) are explained by four independent variants (shadow price, income, park quality and education). F statistic of total regression shows the significance of suggested model (Table 3 & 4).

Table3. Results obtained from estimating tourism demand function (DTOU)
(Data source: research findings)

Variables	Coefficient	T statistic
LnI	0.06	2.76
LnSHP	-0.11	-3.33
LnEQ	0.08	2.86
LnEDU	0.25	3.21
C	1.15	0.94
R^2= 0.93	DW= 1.78	F= 148.7

Table 4. White test for tourism demand function model (DTOU)
(Data source: research findings)

F-ststistic	0.67	Probability	0.49
Obs*R-squared	2.46	Probability	0.52

CONCLUSION AND SUGGESTIONS

Nowadays, tourism is a completely different concept comparing past times and its economical background is exceeding day by day. In this study, the method used is based on obvious preference of travelers who express their preferences clearly. This method is derived from Gary Becker's view and describes the production of market goods approach. Using simple random sampling, the optimized number of park travelers is selected first, and then the production function of Gobb Douglas is estimated for tourism production. It is shown that the tourism production in the park is a function of these variants: travelling time, other costs such as food price, and car renting price. After obtaining production function, following the approach of Pollak (2011) the function of final cost (shadow price of tourism) is calculated. The shadow price of tourism for every minute of travelling to park is calculated to be about 5269 Rials which is 7574400 Rials per day.

After calculating the shadow price of tourism for the park and having data of travelers' income, the function of tourism demand is obtained. Studying the function of tourism demand for the park showed that the shadow price has a negative effect on the rate of tourism demand, and a positive effect on income which is in accordance with theoretical expectations and demand law. According to the suggested model, it is shown that the park quality and increase of educational level are among the most important factors for tourism development in this park.

It could be concluded that the environmental quality of the park has the most effect on tourist attraction to this park. So it is suggested to implant and optimize the trees and plants, well-maintenance of the environment (especially water of the pool) and focus on environmental standards. In addition to recreation function, general parks of urban areas have also other roles such as sports, social and cultural functions. So one of the

requirements is to establish and develop green spaces in different areas of city. Regarding the special location and air pollution, Tabriz city requires more green spaces and this issue is to be considered in the planning and policies of town council. Final cost of tourism has a reversed relationship with tourism demand of the Park and choosing new policies for costs decreasing is suggested. As the effect of educational level on tourism demand is positive, it is hoped that by increase of educated people in the society, the number of park visitors would be increased day by day.

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PETROLEUM GEOLOGY-RELATED SITES IN AND AROUND MIRI, SARAWAK, MALAYSIA: POTENTIAL GEOTOURISM RESOURCES

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Abstract: This paper discusses the petroleum geology-related sites in and around Miri, in the state of Sarawak, Malaysia and their potentials as geotourism resources. Desk study was conducted by reviewing some literatures related to the topic and the study area. A field visit was conducted in May 2014 to observe the recent situation of all sites in details. There are some geological/natural and man-made features in and around the city which are closely related to petroleum geology. The Canada hill (anticline), a unique tectonic feature which emerged from the surrounding coastal plain, is a petroleum trap and used to be the location of many oil wells. On top of this hill is the location of the first oil well (called "the Grand Old Lady") and Miri Petroleum Museum. The deltaic sandstone outcrops of Miri Formation (such as the Airport Road outcrop and other outcrops around Miri) are very ideal outcrops of sandstone reservoirs. Oil seeps, mud volcanoes, and oil sands are some evidences of petroleum occurrences in and around the city. Niah Caves can be seen as an analogue of carbonate reservoirs. All these sites and features can attract people to visit the city, not only geologists and geology students who want to study the petroleum geology of Miri area, but also the common people who are interested in such a field.

Key words: Petroleum geology, geotourism, geosite, Miri, Sarawak

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INTRODUCTION

Miri, the second largest city in the state of Sarawak, Malaysia, has been gazetted as Malaysia's city of petroleum. It is the birthplace of Malaysia's petroleum industry where the first oil well in the country was drilled in the city in 1910. The oil discovery has changed the face of Miri from a small fishery village into a modern city (Sorkhabi, 2010). It also contains many interesting geological and man-made features that related to its petroleum occurrences.

These features are potentials to attract people especially geologists and geology students to study the petroleum geology from the city. Common people can also enjoy these unique and interesting features while getting the knowledge on such a field. This study began from an idea that the authors hope to see Miri as the city where people can study petroleum geology in details and directly from the sites. Since the city contains numerous petroleum geology-related sites, it can be assumed as the "field laboratory" of petroleum geology in Malaysia. These sites are also potentials to become geotourism resources in the city.

Geotourism is a concept for tourism development all over the world. According to Newsome & Dowling (2005), geotourism in the field of geology is defined as a specialized form of tourism in that the focus of attention is the geosites. Geosites are based on geodiversity, such as minerals, rocks, fossils, landforms, landscapes, or other georesources. Through geotourism, we hope a better understanding of the Earth can be achieved so that its geological attractions can be acknowledged. This study aims to expose and provide as much as possible information on some petroleum geology-related sites in and around Miri and to discuss their potentials for geotourism purposes.

STUDY AREA

This study was conducted in Miri and its vicinity. Miri is a city in the state of Sarawak, East Malaysia, in the island of Borneo. It is located in the northeast coast of Sarawak and adjacent to the neighbouring country, Brunei Darussalam (Figure 1). The city is the birthplace of Malaysia's petroleum industry, which remains as its major industry until now. The city is the location where the first oil well in Sarawak and Malaysia was drilled in 1910. Geologically, Miri is composed of the deltaic deposits of the ancient Baram Delta. The modern Baram Delta is the oil-rich delta which shares its area to the state of Sarawak (Malaysia) and Brunei.

MATERIALS AND METHODS

Many studies on geosites/geomorphosites from an area for geotourism development can be referred mainly for their materials and methods, such as study on geosites in Jeli District, Kelantan, Malaysia (Adriansyah et al., 2015), geomorphosites from the Central Sector of the Ceahlău National Park, Romania (Comănescu & Dobre, 2009), and geosites/geomorphosites in Northern-Central Italy (Piacentini et al., 2011).

Materials of the research include maps, photographs and literatures related to the study area, petroleum geology, and geotourism. Methods comprise desk study and field study. Desk study required efforts to perform literature study about the topic and the study area. Field study has been conducted during a trip in May 2014 organized by Faculty of Earth Science, Universiti Malaysia Kelantan to see the actual situation and condition of all sites that related to petroleum geology in and around Miri.

GENERAL GEOLOGY AND TECTONIC SETTING

According to Madon (1999), the Sarawak continental margin forms part of the Sunda Shelf. Part of it continues on land to be exposed between Sibu and Miri and further

northeast into the Inboard Belt of the Sabah Basin. Onshore Sarawak may be subdivided into three tectonostratigraphic zones that represent decreasing stratigraphic and structural complexity: Kuching Zone, Sibu Zone, and Miri Zone.

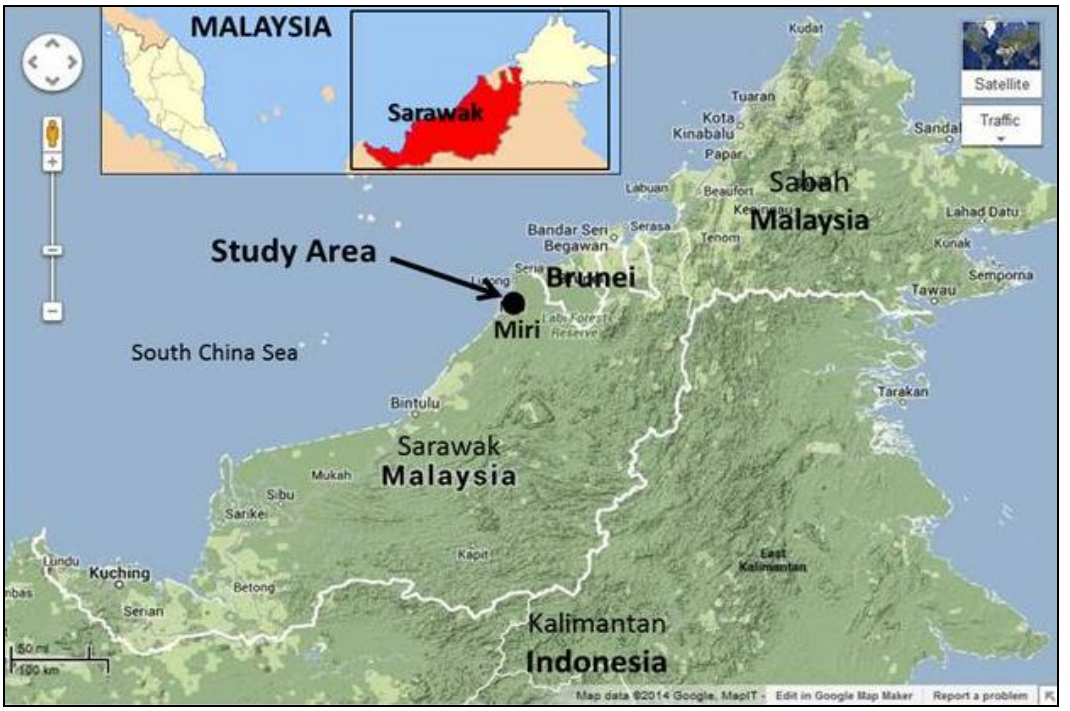

Figure 1. The location map of Miri city, Insert: Map of Malaysia (Source: Google Maps, 2014)

Figure 2. Onshore tectonostratigraphic zones of Sarawak (Source: adopted from Madon, 1999)

These three zones are bordered by Lupar Line and Tatau-Mersing Line (Figure 2). The Miri Zone is underlain by Upper Eocene to Recent strata representing the youngest of the three tectonostratigraphic zones. The Miri Zone represents the onshore extension of the Sarawak Basin that developed during the Late Eocene on the uplifted active continental margin formed by the Kuching and Sibu Zones. Miri area is located in the West Baram Delta, the western part of the Baram Delta province (in the Sarawak Basin) which is roughly triangular in shape. According to Tan et al. (1999), the West Baram Delta is characterized by the deposition of a northwestward prograding delta since Middle Miocene times. Periods of delta outbuilding were separated by rapid transgressions, represented by marine shale intervals that form the base of eight sedimentary cycles in the Sarawak Basin.

Stratigraphically, Sarawak is mostly composed by sedimentary rocks, only some igneous bodies scattered in some parts of the state. According to Hazebroek & Abang Kashim (2006), the huge amount of sand and shale making up the delta was originally from the erosion of Sarawak's interior mountain ranges. Sarawak Shell geologists have shown that this delta reach a tremendous sediment thickness, exceeding 12,000 m in the delta. The major part of the delta built up from 15 to 2 million years ago (Middle Miocene to Pliocene), but the growth of the delta continues today (Figure 3).

According to Tan et al. (1999), the Tertiary rocks of onshore northwest Sarawak consist of a thick succession of sand-shale sequences with subordinate carbonates. These rock units can be subdivided into two parts, mainly based on their degree of deformation, namely (1) an older, deformed sequence of clastic and subordinate carbonates (Late Cretaceous to Early Miocene), and (2) a younger, more gently deformed series of progradational deltaic sediments (Middle Miocene to Quarternary). The older sequences (Paleogene to early Neogene) occur in the more interior parts of Sarawak, whereas the younger sequences (upper Neogene) of deltaic series crop out extensively in the coastal areas and extend into the offshore.

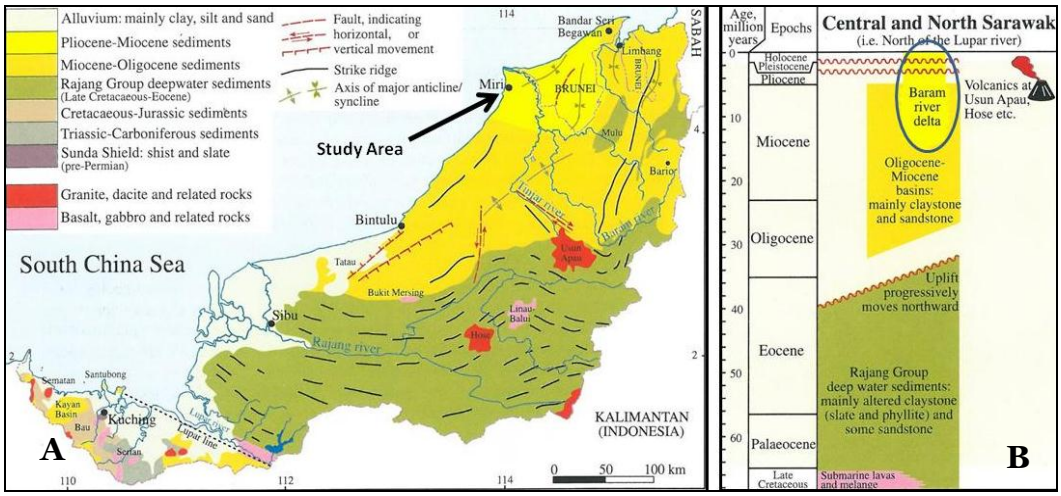

Figure 3. Regional geology of Sarawak: (A) General geology of Sarawak. Miri is a part of the Baram Delta, (B) This delta is composed of Miocene – Pliocene sedimentary rocks (Source: adopted from Hazebroek & Abang Kashim, 2006)

Four formations in the younger Neogene succession, namely the Setap Shale, Lambir, Tukau, and Miri Formations have been studied by previous researchers, such as Tan et al. (1999) and Muol & Daud (2012), and can be summarized as follow:

- The Setap Shale Formation (Early Miocene – Quaternary) consists mainly of shales with occasionally less indurated, relatively monotonous clay intervals and thin, mainly turbiditic sandstone beds. The characteristic facies persists into the offshore area, where it gets progressively younger in the northwesterly direction.
- The Lambir Formation (Middle – Late Miocene) consists predominantly of sandstones and shales with minor limestones and marls. The Lambir, in general, has a slightly diachronous transisional contact with the underlying Setap Shale. In the Lambir Hill area, however, an erosional contact with the Setap Shale is observed.
- The Tukau Formation (Middle – Late Miocene) occupies the southern part of Miri city and extends beneath the alluvium in the eastern part of the area. Generally, the Tukau Formation consists of alternations of softer sandstones and shales rich in lignitic materials, forming an undulating topography.
- The Miri Formation (Middle Miocene) crops out around Miri and restricted to Canada Hill extending from Tanjung Lobang to Pujut. This formation provides an invaluable surface analogue for the subsurface sediments of the offshore West Baram Delta. Its outcrops are restricted to the narrow coastal region around Miri. The maximum total thickness of the Miri Formation estimated to exceed 1830 m (6000 ft). The Lower Miri unit consists of interbedded shales and sandstones, and passes downwards into the underlying Setap Shale Formation. The upper Miri unit is more arenaceous, consisting of rapidly recurrent and irregular sandstone-shale alternations, with the sandstone beds passing gradually into clayey sandstone and sandy or silty shale. This formation has been moderately folded in a northeast direction to form a wide anticline of the Miri Hill/Ridge. The regional strike of this formation is parallel to the ridge.
- Quaternary deposits are widespread on the eastern and western parts of Miri area. The deposits cover most of the underlying and low-lying areas and consist of alluvial and terrace deposits. Alluvial deposits are composed of clay and sand intermittently overlain by peat swamp in the eastern part. Terrace deposits which are found along the Miri Ridge, immediately east of the city contain remnants of sand and gravel and are found resting on shale and sandstone dipping towards the northwest close to Tanjung Lobang cliff.

The Miri area consists of a swampy alluvium plain raising a few meters above mean sea level and extends along most of the coastline. The coastal plain is relatively narrow in the city centre and in the south, but extends broadly in the north. The hilly area of Miri Hill runs to NE-SW direction forming the highest elevation in the area. The extensive alluvial plain to the east flanks the Miri Ridge and comprises peat swamp forest. The topography in the southern part of the area is undulating (Muol & Daud, 2012). Some outcrops in Miri area (onland) were exposed naturally by geological processes including of tectonic uplift and erosion. Some others were exposed by human activities, primarily by cutting the hills for housing construction projects. These human activities give both positive and negative impacts towards the outcrops in Miri and its vicinity, since these activities can provide excellent and fresh outcrops for geological studies, but the rampant construction projects will threaten some other existing outcrops.

The geological map of Miri area has been constructed by von Schumacher in 1940 which is still relevant and can be used to date (Wannier et al., 2011). This map shows that Miri area is composed of sedimentary rocks and sediments (Figure 4). The area is mostly composed of the interbedded deltaic sandstone and shale.

Some petroleum geology-related sites for geotourism resources

This study has managed to identify some petroleum geology-related sites in and around the city of Miri as potential resources for geotourism, as follow:

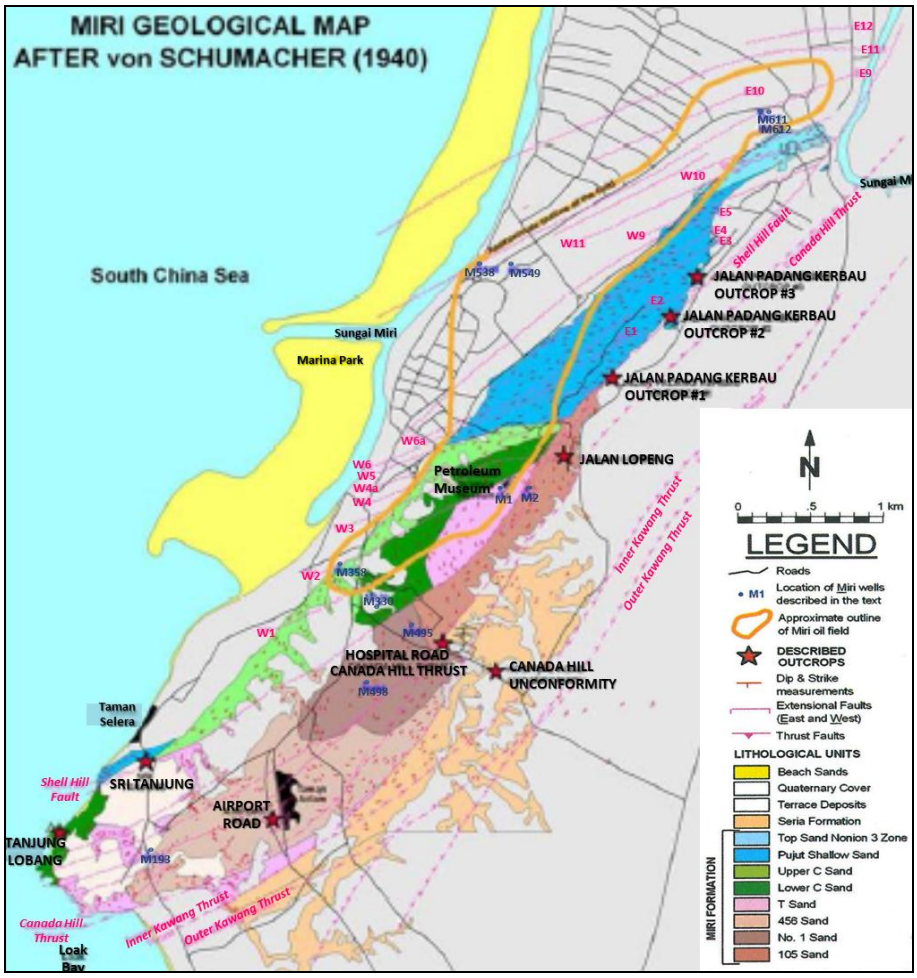

Figure 4. Geological map of Miri which was constructed by von Schumacher in 1940 (Source: Wannier et al., 2011)

The Canada Hill (anticline)

The Canada Hill or the Miri Hill (renamed in Malay as "Bukit Telaga Minyak" in 2005; Figure 5) is a narrow and elongated hill which is formed by tectonic force and oriented in NE-SW direction from Tanjung Lobang in SW to Pujut in NE. Geologically, the hill is an asymmetric, northeast-trending anticline with a gentle northwest flank and a steep and partly overturned southeast flank. According to Kessler & Jong (2012), Miri's Canada Hill is some 7 km long and less than 2 km wide and emerges from the coastal plain. The inner core of the Canada Hill, an elongated sliver of mildly folded sandstone, is bounded by the Shell Hill Fault and the Canada Hill Thrust. In this anticline, 612 wells were drilled on the NW side, but none on the SE side. This anticline was dissected by many faults to form numerous small compartments of petroleum trap.

According to Tan et al., 1999, the Miri anticline underwent two phases of deformation: firstly, a Late Miocene extention, which resulted in the Shell Hill Fault and the associated listric and antithetic normal faults; and secondly, a Pliocene compression which resulted in development of the anticlinal feature and the Canada Hill Thrust.

This hill offers visitors the excellent views of Miri and the surrounding areas. On top of the hill, people can visit two important landmarks of Miri, the Malaysia's first oil well, known as the "Grand Old Lady" and Petroleum Museum. The "Grand Old Lady" Well-1 (coordinates: N 04°23'20.13", E 113°59'42.04") is the first producing rig, however, it is no longer production and has been declared as a historical site by the government of Sarawak. It represents an important monument in the history of petroleum industry in Malaysia. According to Sorkhabi (2010), the well derrick is 30-m high and has produced 658,650 barrels of oil over period of six decades. This well also becomes the witness how Miri develops from a fishery village in the 19th century to a modern city. Shell (2013) recorded that the well was discovered by Shell in 1910 and was spudded on 10 August that year, and began producing 83 bopd in December.

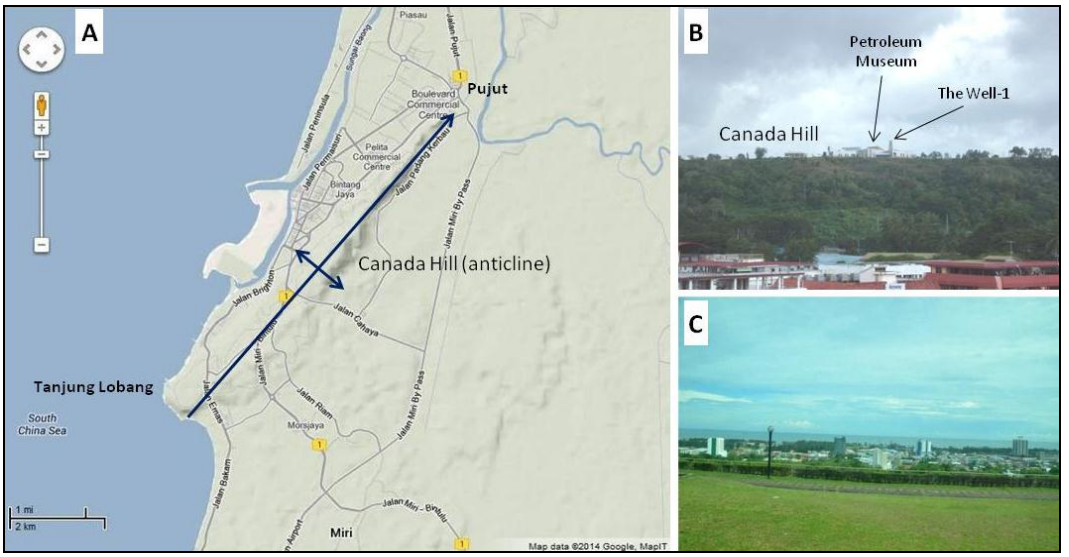

Figure 5. The Canada Hill or Bukit Telaga Minyak in Miri is an anticline: (A) The anticline extends from Tanjung Lobang to Pujut, trending to NE (Source: from Google Maps 2014), (B) The hill emerged from the surrounding coastal plain. The "Grand Old Lady" Well-1 and Miri's Petroleum Museum are located on top of the hill, (C) A view of Miri town from the top of the hill

Miri's authority and the Sarawak Museum Department, with the support from PETRONAS (Malaysia's national petroleum company) and Shell Malaysia (one of world's petroleum giants operating in Malaysia), opened a petroleum museum at the Canada Hill to preserve the records of the development of petroleum industry in Miri, Sarawak, and all Malaysia. This museum was built at the site of the Grand Old Lady and was officially opened to public in 2005. Inside of the museum, visitors can enjoy various exhibits related to petroleum discovery and industry. Visitors can also interact with the devices and technology used in petroleum industry. This museum gives opportunity to visitors mainly students and the young generation to understand the history of petroleum exploration activities in Malaysia. Both the Well-1 and the Petroleum Museum have become attractions for tourists and students (Figure 6).

The deltaic sandstone outcrops of Miri Formation

The Upper Miocene deltaic sandstone beds are the reservoir rocks in the Miri Field. These units of Miri Formation are deposited by the paleo-Baram Delta. The delta has

been constantly changing and evolving throughout geological time. The modern Baram Delta can be observed as a cuspate type of delta which has one distributary (the Baram River) taking sediment into the flat coastline with the wave action hitting it and pushing the sediment back on both sides of the distributary mouth. Some excellent outcrops of deltaic sediments can be observed in and around Miri city, such as outcrops in the Airport Road, Hospital Road, Lopeng Road, and Padang Kerbau Road.

Figure 6. The "Grand Old Lady" Well-1 and Petroleum Museum in Miri, Sarawak: (A) The derrick of Miri Well-1 is now one of the landmarks of Miri city, (B) The statue of workers in the oil well/rig, (C) A model of a "nodding donkey" which is used by the petroleum industry to pump crude oil, (D) The Petroleum Museum is located on the top of the Canada Hill, next to the Well-1, (E) An exhibit inside the museum, (F) A model of an oil platform is displayed in the museum

According to van der Zee & Urai (2005), the Miri Formation is a stack of deltaic cycles forming a layered clay-sand sequence (85% sand and 15% clay) with laterally discontinuous sand bodies. Most clay layers are thin (~10 cm) with a few thicker layers (up to 50 cm thick). Felix Tongkul (2005) has identified four outcrops of the Miri Formation along the Canada Hill area. The first outcrop is the Airport Road Outcrop, a spectacular outcrop along the main road showing large scale block faulting. The second outcrop is located near the Hospital Road, extending along a 20-m high cliff which follows the Canada Hill transpressional thrust zone. The third outcrop is on the Lopeng Road, characterized by aggrading shallow marine clastics. The fourth outcrop is in Pujut, characterized by two major lithostratigraphic units of the Miri Formation, a lower and an upper sandy sequence.

The Airport Road Outcrop (coordinates: N 04°21'51", E 113°58'43") is located towards the southwestern end of the Canada Hill, along the road to the Miri Airport and around 3 km south of the Miri town centre. This outcrop represents a good example of well-preserved faulted sedimentary rock sequence analogue to reservoir rocks, seals, and structural traps in the Miri's subsurface. The outcrop exposes soft rocks including sandstones, which are the most common, and shales, mudstones, and siltstones. The sandstone units of the Miri Formation have ever become good quality

reservoirs in the Miri Field before the oil field was shut down. The individual beds of sandstones in the area show different lateral thicknesses, grain sizes, and sedimentary structures. The outcrop is the first geosite which has been set up as an outcrop museum in Malaysia (Figure 7). This famous outcrop has also been studied in various geological aspects by many geologists.

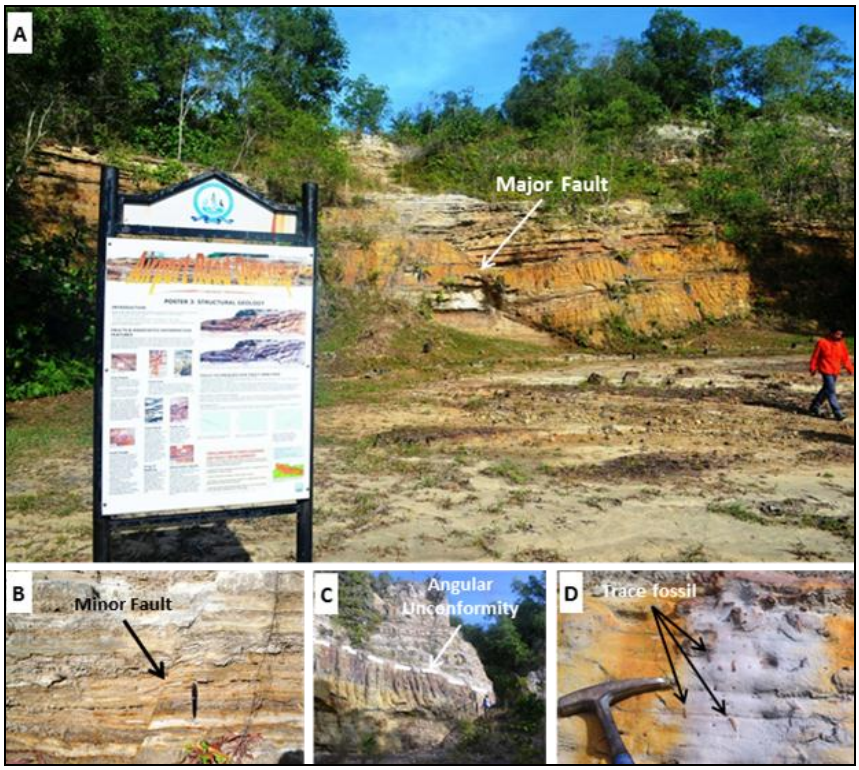

Figure 7. The Airport Road Outcrop in Miri: (A) The recent situation of the outcrop museum, (B) One example of minor fault in the interbedded sandstones, shales, and mudstones, (C) A feature of angular unconformity in the outcrop as a contact between rocks, (D) Many trace fossils, such as Ophiomorpha (in burrows) encountered within the sandstone

In addition to its importance as the reservoir rocks in the past, this outcrop exposes a world-class faults exposure which can be followed over large distances, along vertical and horizontal surfaces. This is the evidence that the area has suffered from tectonic activities. The outcrop, according to Van der Zee & Urai (2005), exposes over 450 normal faults with throws ranging from several centimeters to over 25 meters. The outcrop such as this is rare in Malaysia, where a 3-dimentional view of the faults can be observed. Some faults in the outcrop are major faults and some others are minor ones. In petroleum geology, faults are one of important structural traps of petroleum. Tongkul (2005) elaborated that the Miri Oil Field consists of a large number of fault blocks, similar to the ones exposed here. Therefore, this outcrop provides an excellent analogue to understand the subsurface geology of the Miri Field. Visitors can also observe some other geological features formed in this sedimentary rocks such as cross stratification and angular unconformity. Trace fossils, such as burrows of Ophiomorpha, can be found in some parts of the outcrop, indicating that the sedimentary rocks deposited in the shallow marine environment.

The deltaic sandstone outcrops on the Lopeng Road also provide excellent analogues of reservoir rocks in Miri area. Some fresh outcrops were exposed by hill cutting works for the construction project, allowing a good observation to visitors. The outcrops in this area show relatively horizontal layers of some sedimentary rocks such as sandstones (the most common), shales, claystones, siltstones, and mudstones (Figure 8). Some faults can be observed clearly in the outcrops. The authors have found some bivalvia fossils in one of the outcrops during the field work. The authors named these outcrops as the "Sarawak Layer Cake outcrops" since they look like the famous local snack, Sarawak layer cake. Some other new deltaic outcrops in the area are perhaps continously exposed that may provide opportunities to study the geological features, such as sedimentary rocks, sedimentary structures, geological structures, fossils and so on. These locations are also appropriate to take a measurement of strikes and dips of the sedimentary rock beds and some throws of faults.

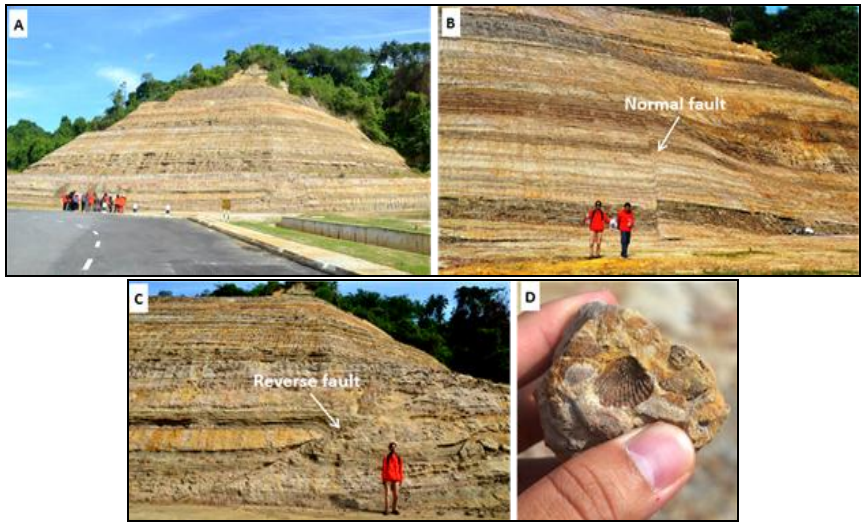

Figure 8. The deltaic sedimentary rocks on the Lopeng Road, Miri: (A) The first hill outcrop, (B) The second hill, next to the first hill, show similar rock sequence and an example of normal fault, (C) A reverse fault in the first hill outcrop, (D) A trace fossil of bivalvia from this area

Oil seepage

Seepage of petroleum, both oil and gas seeps, are natural springs where liquid and gaseous hydrocarbons leak out of the ground. Oil and gas seeps are fed by natural underground accumulations of oil and natural gas (USGS PCMSC, 2011). The seeps can occur both onshore and offshore and are composed of mixtures of crude oil, asphaltum (tar), natural gas, and water (DOC, 2013). Leythaeuser (2005) stated that petroleum seepage at the Earth's surface is a consequence of disturbance on cap rocks such as fracturing or cracking. The natural oil/gas seep is one of hydrocarbon indications of an area. In Miri and its surrounding areas, oil has seeped naturally from underground sources to the Earth's surface, such as oil seeps in an outcrop along Padang Kerbau road, on top of Canada Hill, in an outcrop in Lambir Hills, and in an outcrop along Miri-Bekenu coastal road (Figure 9).

Mud volcanoes

Mud volcanoes are geological features formed as a result of the emission of argillaceous material on the Earth's surface or the sea floor. The mixture of sufficient

water, gas, and mud (fine-grained sediments from subsurface formations) will produce semi-liquid material and will be forced up through long narrow openings or fissures (conduits) along the lithologic succession to produce an outflowing mass of mud on the surface (mudflow). The extruded material forms characteristic morphological features with various shapes (from positive features such as conical shape or dome and ridge to negative ones such as mud pool and mud pie) and sizes (from very large structures - up to 100 km², to small landforms - a few tens of square meters). Despite their name, they are actually not related to volcanic activity and the only characteristics that link them with magmatic volcanism are the surface morphology and the vague resemblance in the activity (Dimitrov, 2002; Kopf, 2002).

Figure 9. Some oil seeps in and around Miri: (A) An outcrop along Padang Kerbau road, (B) A ditch on top of Canada Hill, (C) An outcrop in Lambir Hills (D) An outcrop along Miri-Bekenu coastal road (Source: Wannier et al., 2011).

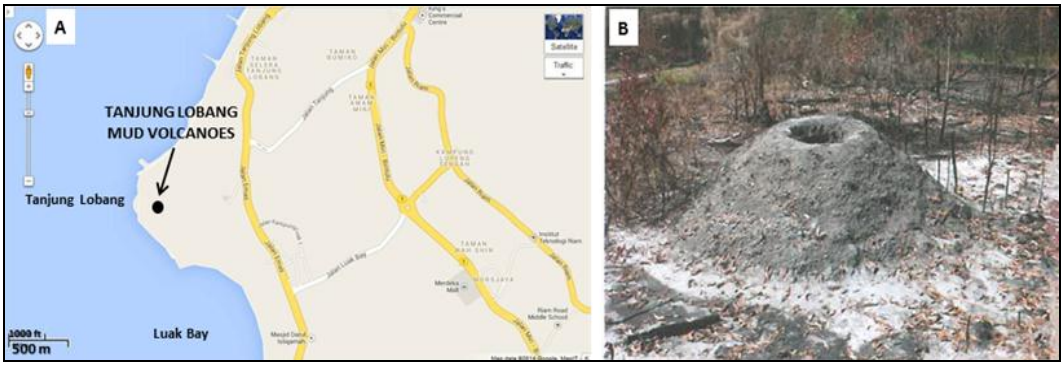

Figure 10. Inactive mud volcanoes can be observed in Tanjung Lobang area: (A) The location map of the Tanjung Lobang mud volcanoes (Source: Google Maps 2014), (B) A well-preserved remnant cone of an inactive mud volcano in the area (Source: Wannier et al., 2011)

One of the factors controlling the occurence of mud volcanoes is continuous active hydrocarbon generation and one of the main driving forces is high pore-fluid pressure

provided by gases, so it can be considered that mud volcanoes can be used for predicting the presence of petroleum in the subsurface (Dimitrov, 2002). Mud volcanoes are common in many areas of Northern Sarawak, Brunei, and Sabah where Setap Shale Formation crops out in those areas (Wannier et al., 2011). Some mud volcanoes, both active and inactive, can be observed in some locations in and around Miri area. A series of inactive mud volcanoes in Tanjung Lobang (coordinates: N 04°21'32.34", E 113°57'42.89") have been reported by Wannier et al., (2011). The mud volcanoes have about 1.5 m high conical mounds, and one of them has its well-preserved crater (Figure 10). Some active mud volcanoes called Ngebol Mud Volcanoes (coordinates: N 04°04'54.8", E 113°58'30.5") have been reported among others by Tan et al. (1999) and Wannier et al., (2011). These mud volcanoes are situated within the oil palm plantation in Bukit Peninjau area. The accessibility to the location of these mud volcanoes is from Miri go through the Miri – Bintulu Road, then in Km. 44 turn left at the junction to Beluru and the Logan Bunut National Park, near the Bekenu junction.

After driving for 2.1 km, visitors will reach the car park area or the start of the trail to the mud volcanoes. It takes around 2 km or 30-45 minutes hiking in the middle of the oil palm plantation from the start of the trail to the mud volcanoes. Local people call the place "Ngebol" which means "seepage". These mud volcanoes are composed of mudstone of the Setap Shale Formation and gases. Mud volcanoes here consist of water-rich muds which create low and broad craters, reaching a maximum of one meter in height. The origin of the gases (consist usually of methane) is mostly related to hydrocarbon generation in the subsurface (Wannier et al., 2011; Figure 11).

Figure 11. Ngebol mud volcanoes in Bukit Peninjau area, near Miri: (A) The location map of the Ngebol mud volcanoes (From Google Maps 2014); (B) The aerial view of the Ngebol mud volcanoes (From Google Maps 2014); (C) Overview of Ngebol mud volcanoes, (D) Two different morphological features (an emerged cone at the forefront and a pond at the back) of the Ngebol mud volcanoes (Source: Wannier et al., 2011)

Beaches from Tusan to Tanjung Batu

The long stretch of sandy beaches with rocky cliff leading from Tusan (coordinates: N 04°07'32.1", E 113°49'25.9") to Tanjung Batu (coordinates: N 04°07'14.5", E 113°49'02.9") offers opportunities to observe many interesting geological features. These beaches (Figure 12) are located in between Kampung Beraya Laut and Kampung Terahat, around 40 km towards SW of Miri and facing the South China Sea. These beaches can be accessed from Miri city through the coastal highway towards Bekenu. The right turn from a three junction at around km 40 leads to Tusan Beach. Tusan (literally mean "at door step") Beach provides a scenic view from atop of the cliff and Tanjung Batu Beach (also named "Rocky Isthmus"), which can be accessed only from Tusan Beach, also provides beautiful features that are best enjoyed along the coast southwestwards around 45 minutes during the low tide.

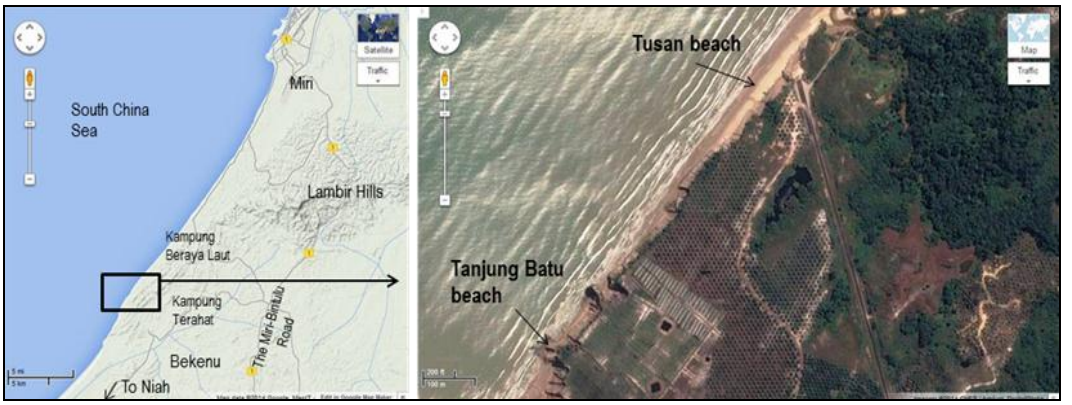

Figure 12. The location map of Tusan Beach and Tanjung Batu Beach (Source: Google Maps 2014)

According to Felix Tongkul (2005), these beaches are composed of sedimentary sequence of the Lambir Formation, which consists of sandstone and mudstone showing interesting sedimentary structures and contains a rich assemblage of fossils such as gastropods, bivalves, and crabs. Among interesting geological features which can be observed at Tusan Beach are the sea-dipping sandstone cliff with the strike/dip of sedimentary layers is N225°E/35°, the wonderful horse head-shaped arch exposes angular unconformity between Miocene sedimentary rocks and Pleistocene terrace deposits, some sea caves scattered in the sandstone bodies, and some sedimentary structures such as cross bedding and taphony structures. Meanwhile, at Tanjung Batu Beach, a prominent sea stack and conglomerate blocks with soft sediment deformation structure are among the interesting features can be observed (Figure 13). The wave and wind erosions are the dominant processes occur in the area which continously change the coastal morphology of the area from time to time.

There is another significant and valuable feature in term of petroleum geology can be found at Tanjung Batu Beach, it is oil sands, also known as "tar sands" (Figure 14). Oil sands are sediments or sedimentary rocks composed of sand, clay minerals, water and bitumen. The oil is in the form of bitumen, a very heavy liquid or sticky black solid with a low melting temperature. Bitumen typically makes up about 5 to 15% of the deposit (OSTSEIS, 2012; Geology.com, 2014). The composition of oil sands consists of sand grains, an 'envelope' of water surrounding a sand grain, and a film of bitumen surrounding the water (Canadian Centre for Energy Information, 2014).

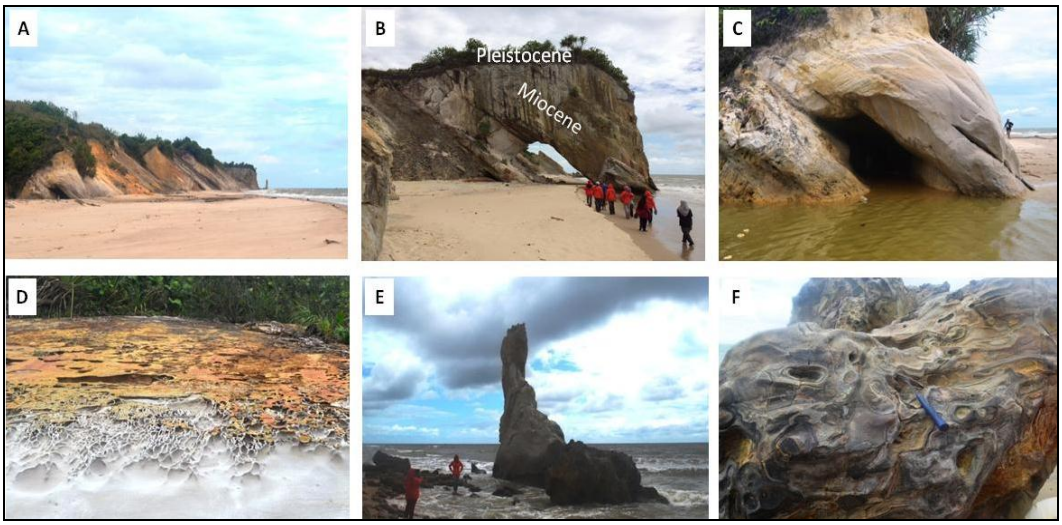

Figure 13. Tusan Beach and Tanjung Batu Beach provide so many interesting geological Features: (A) Tusan cliff, (B) A horse head-shaped arch, (C) One of sea caves at Tusan Beach, (D) Taphony or honeycomb structure in the sandstone cliff at Tusan Beach, (E) A sea stack at Tanjung Batu Beach, (F) Soft sediment deformations of a conglomerate block in the tidal environment found at Tanjung Batu Beach

Figure 14. Oil sands (also known as "tar sands") as one of petroleum treasures: (A) Some boulders of oil sands scattered at Tanjung Batu Beach, near Miri, (B) Each oil sand grain has two layers: an 'envelope' of water surrounding a grain of sand, and a film of bitumen surrounding the water (Source: Canadian Centre for Energy Information, 2014)

Niah Caves as an analogue of subsurface carbonate reservoirs

Niah Caves are parts of Niah National Park which is located around 110 km in the SW of Miri city (or around 2 hours from Miri to the park headquarter) and around 3 km from the nearest town of Batu Niah (Figure 15). The cave complex is situated on the northern part of the national park, along the Miri-Bintulu Road, near Niah River, and about 20 km inland from the sea (the South China Sea) on the north coast of Sarawak.

This world-famous Niah Caves were declared as a National Historic Monument in 1958 and gazetted as a National Park in 1974, and now has been proposed as a World Heritage Site to UNESCO.

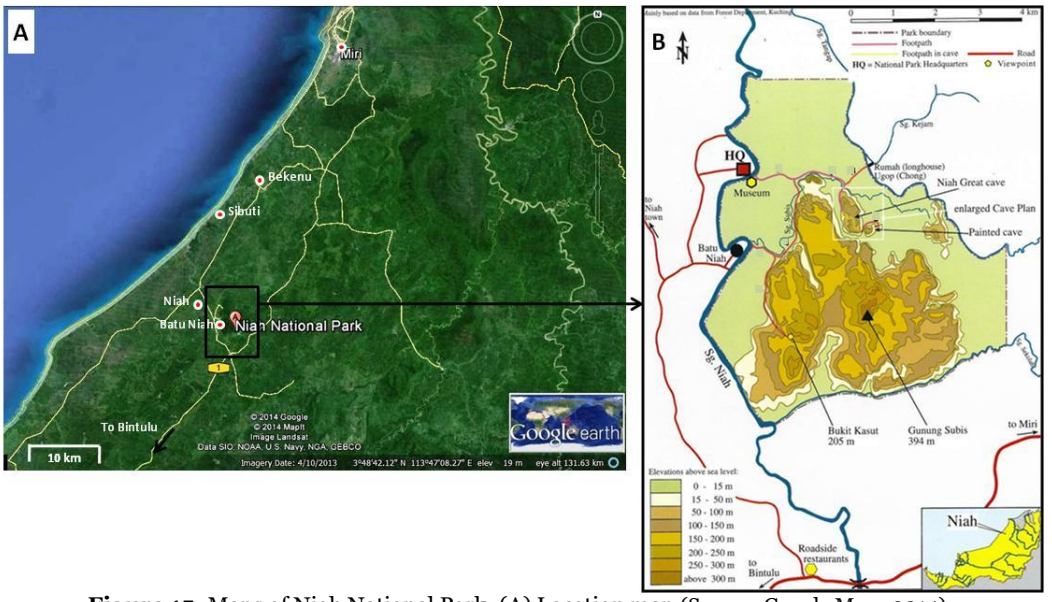

Figure 15. Maps of Niah National Park: (A) Location map (Source: Google Maps 2014), (B) Topographic map (Source: Hazebroek & Abang Kashim, 2006)

Figure 16. The road and some infrastructures and facilities have made the journey to the Niah Caves convenient to visitors: (A) An excellent road from Miri to the Niah Caves, (B) The HQ of Niah National Park, (C) The jetty of Niah River, near the park HQ, (D) The Niah Archeological Museum, (E) The plank walk, (F) One of the signboards provided in the Caves

The national park covers around 31 km² of limestone hills and lowland forest. The largest of these hills, Mount Subis (394 m above sea level) dominates the landscape (Hazebroek & Abang Kashim, 2006). The excellent road link the national park to some towns such as Batu Niah, Niah, Miri, and Bintulu. Besides that, some supporting infrastructures and facilities have been built to make visitors convenient to explore the caves, such as the park HQ, jetty of Niah River which links the HQ and the caves, Niah Archeological Museum as the place to preserve archeological things from the area,

plank walks and signboards which provide an easy and enjoyable journey to visitors (Figure 16). All these infrastructures and facilities enable visitors to arrange their visit to the Niah Caves as a one day trip. The giant cave complex consists of the largest cave with the name of Niah Great Cave and several smaller caves including the Traders Cave and the popular Painted Cave. Geologically, Niah National Park consists of the limestone hills and caves which are part of the Subis Limestone (named after the highest hill) which covers an area of about 16 km^2. Mount Subis is mainly built of massive, cliff-forming limestone, and surrounded by the lowland consists mainly of marls with occasional limestone fragments. All these limestone and marls belong to the Tanggap Formation. Some parts in the NE dan SW of the national park area consist of sandstone of the Nyalau Formation which forms more gentle slopes and underlies the limestone. A major NE-SW trending fault cuts right through Mount Subis (Figure 17). Inside the caves, the floor of the caves is covered by clay and guano (bird and bat droppings) and scattered limestone boulders (Hazebroek & Abang Kashim, 2006).

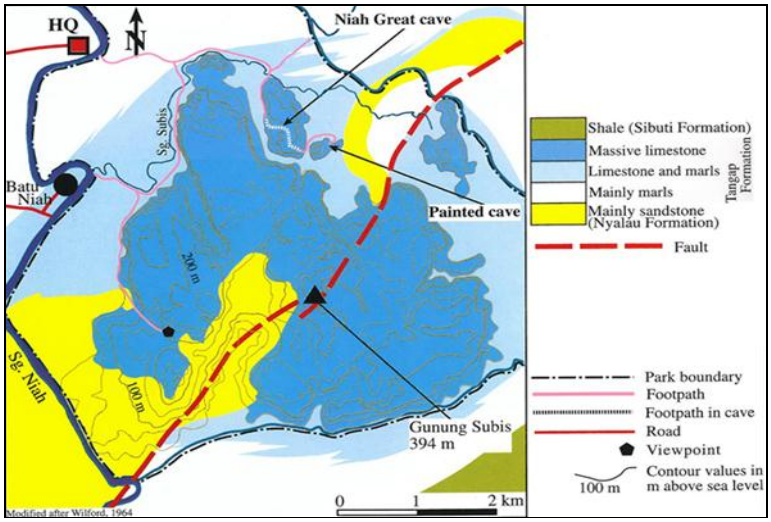

Figure 17. Geology of Niah National Park (Source: Hazebroek & Abang Kashim, 2006)

Niah Caves are also an important archeological site in Sarawak and Malaysia. Archaeologists have discovered the evidence of man's existence in Borneo dating as far back as 40,000 years ago, such as the skull of a young Homo Sapien, some tools made of stone, bone, and iron, as well as cave drawings. Anthropologists established that the Niahian lived in the caves from 40,000 BC right up to 1400 AD (Geographia, 2006).

From the perspective of petroleum geology, the Niah Caves system can be used as an analog for carbonate reservoirs. Feazel (2010) explained that karst processes, hydrology, dimensions and architecture are useful in understanding karsted rocks that serve as reservoirs for oil and natural gas. Karst processes ranging from surface weathering to deep burial dissolution have affected numerous karst intervals that host petroleum accumulations. In the case of Niah Caves, the Subis limestone and these caves (Figure 18) can also be “seen” as a carbonate reservoir and are useful in understanding the characteristics and properties of this type of reservoir. For example, the cave passages can be used to infer the porosity and connectivity of carbonate reservoirs. The Great Cave consists of more than 3 km of passages where the entrances (mouths) are on the west, east, and south sides of the hill. Small stalactites are common within the caves, some of

which have grown into pillars/colomns. Holes in the roof of the caves form connections to the surface. Where these passages join, they form large chambers up to 60 m high and 90 m wide. Other passages are high and narrow. They are connected laterally by tubular passages (Hazebroek & Abang Kashim, 2006).

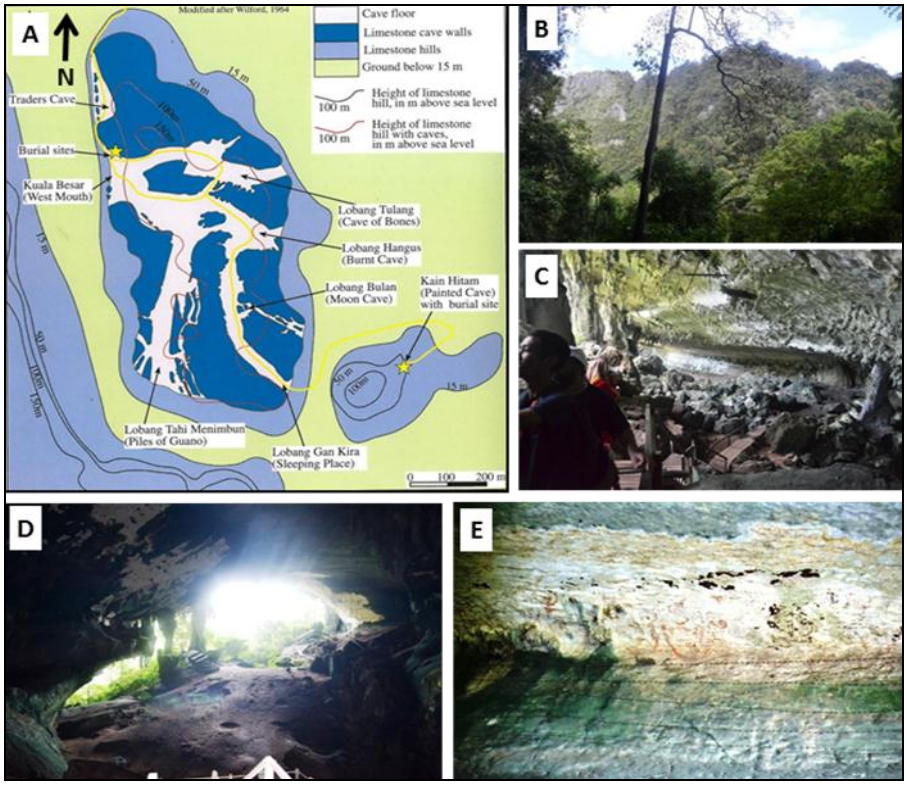

Figure 18. The modern cave systems (such as the Niah Caves) can be used as an analog to study carbonate reservoir rocks: (A) Plan view of Niah Great Cave (Source: Hazebroek & Abang Kashim, 2006), (B) The massive, cliff-forming Subis limestone that dominates the Niah National Park, (C) The overhang of Traders Cave, (D) The main entrance (called the West Mouth, around 49 m above sea level) and the largest passage of the Great Cave with its arc-shaped ceilings, (E) The wall of the Painted Cave

CONCLUDING REMARKS

This study shows that Miri and its surrounding areas consist of some important petroleum geology-related sites, both geological/natural and man-made features, which are potentials for geotourism resources. Among those sites are the Canada Hill, the Grand Old Lady (the Well No.1) and Petroleum Museum on top of the hill, the deltaic sandstone outcrops of Miri Formation (such as the famous Airport Road outcrop and other deltaic outcrops), oil seepage and mud volcanoes in some locations in and around Miri, oil ("tar") sands in Tanjung Batu Beach, and Niah Caves. All these features and sites should be conserved and developed properly, mainly for scientific and educational purposes as well as for geotourism development of the area.

Acknowledgement

The authors wished to thank Faculty of Earth Science, Universiti Malaysia Kelantan (UMK) for giving us the fund to organize a trip to Miri and run this small project. We also

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WINE TOURISM - A CONCEPTUAL APROACH WITH APLICATION TO ALBA COUNTY, ROMANIA

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Abstract: This study tackles a relatively recently developed concept between the tourism industry and the wine industry, named wine tourism. The main aim of the study is to highlight the wine potential of Alba County and the way it can be harnessed. Alba County has a rich wine heritage, a fact which is due to the long-standing tradition of wine-growing on these lands, since the Dacian epoch, as well as to the characteristics of the natural factors, favourable for obtaining high-quality wines, the reputation of which has been acquired at national and international competitions. The cultural and natural heritage associated to the vineyard and to the wine is an expression of the continuity of this activity over time and is emphasized by the variety and density of the tourist attractions spread in the four vineyards of Alba County, namely: Aiud, Alba Iulia, Sebeș and Târnave. The high-quality wine, the winescape of the county, the old cellars bearing the stamp of wine-growing and winemaking traditions in this area, the cultural-historical monuments (castles, Dacian and medieval fortresses etc), natural reserves and monuments situated within the vineyards etc., are elements of tourist attractiveness which facilitate the development of wine-tourism by the creation of a complex tourist offer, able to satisfy a varied range of tourist motivations and to compete successfully with the offer existing in other wine-growing regions of the country and not only.

Key words: wine tourism, wine road, vineyard, Alba County

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INTRODUCERE

Wine tourism - a conceptual approach

The most attempts to define and conceptualize wine tourism come from the researchers in the field of tourism marketing and are especially based on the tourists' motivations to visit a wine-growing region and their experiences in that place. The first definition of wine tourism belongs to Hall (1996) and Macionis (1996): "visitation to vineyards, wineries, wine festivals and wine shows for which grape wine tasting and/or experiencing the attributes of a grape wine region are the prime motivating factors for visitors" (Hall et al., 2000, p.3). This definition is restrictive as far as the tourists' motivations are concerned, as there are other factors as well which can attract tourists to a wine-growing region, such as: the culture, the landscape, sport, the traditional

* Corresponding author

gastronomy etc. No reference is made to the length of stay, as wine tourism implies one-day trips, as well as several-days visits. Another approach, based on the tourists' experiences is illustrated in the definition given by The Australian National Wine Tourism Strategy (1998), taken by Getz (2000, p. 3 and Alant & Bruwer (2004, p. 27-28): "visitation to wineries and wine region to experience the unique qualities of contemporary Australian lifestyle associated with the enjoyment of wine at its source - including wine and food, landscape and cultural activities".

On this ground, Getz (2000) states that there are three major perspectives in defining this concept, namely: wine producers, tourism agencies and consumers. Incorporating all three major perspectives, wine tourism can be defined as: "travel related to the appeal of wineries and wine country, a form of niche marketing and destination development, and an opportunity for direct sales and marketing on the part of the wine industry" (Getz, 2000, p.4). Out of this definition we can notice the important elements in the delineation of wine tourism from the marketing point of view: the consumers with their motivations and experiences, the image of the wine-growing region and the producers' strategy to sell the product directly. Another definition, a much more complex one, given in the light of the tourists' experiences, is offered by Geibler (2007, p. 29), who states that "wine tourism includes a wide range of experiences built on the occasion of visits that tourists make to the wine producers, in the wine-growing regions or while participating to wine-related events and shows – including wine tastings, wine associated to food products, the pleasure of discovering the surroundings of the region, one-day trips or longer leisure trips and the experience of a range of lifestyles and cultural activities".

In the report brought forward to the French Ministry of Agriculture, entitled "Strategic Plan for the Exploitation of French Wine Industry by 2020", M. Roumegoux (2008, p. 52) stated that "wine tourism is one of the first methods for the accomplishment of the wine, thus facilitating the meeting between producer and consumer in holiday; the latter becomes curious, available and responsive, that initiated in order to become the best ambassador of the vineyard". The geographers are those who have introduced the idea of landscape in the definition of wine tourism, as well as the concept of "terroir", or "winescape", so much discussed about in the vineyards all over the world. The territory plays a very important role, being defined as a basis or benchmark for the wine tourism development tenders. Territory with its intimate characteristics or "le terroir", as it is greatly defined by the French, is the basis for the development of wine culture. The quality of wine and therefore attracting tourists cannot be achieved without the quality of the land where the culture of wine is developed (Mănilă, 2012).

The concept of "winescape" was introduced for the first time by Peters (1997) and it generally refers to the attributes of a wine-growing region (vineyards, cellars, wines). Afterwards, the concept was widely used in the specialized literature concerning oenotourism or wine tourism (Wilson, 1998; Getz, 2000; Hall et al., 2000; Sparks, 2007). According to Johnson & Bruwer (2007, p. 277), the winescape includes "vineyards, cellars and other physical structures, wines, natural landscapes, people, heritage, settlements and their architecture". Hall et al., (2000) and Carlsen (2006) conclude in their studies that winescape is what first of all motivates the tourists and determines their behaviour. Bruwer (2002) considers that in order to define the concept of wine tourism, we first have to find out the real reasons which make the tourists decide to visit a winemaking unit. The identification of motivations is essential, because this should support the creation of some promotion strategies meant to attract more tourists.

According to Bruwer (2002), the main reasons for tourists to visit the wine roads in a certain wine-growing region are the following: buy wines, taste wines, the winescape of the region, wine-growing and winemaking tours, acquire knowledge about

wine and vinification, meet the winemaker, socialize with family and friends, take part in wine-related festivals and events, the possibility of having a meal within the winery and entertainment opportunities. Dubrule (2007, p. 6), the owner of a vineyard in the south-east of France, the ex-president of the Council of Wine Tourism in France considers that wine tourism or oenotourism can be defined as: "the whole range of services offered to the tourists during their visit in wine-growing regions: visits of cellars, tasting, accommodation, catering and activities related to the wine, to local products and regional traditions". This definition offers a list of wine-related products. Nevertheless, the winescape and its intangible values are left aside. Sophie - Lignon Darmaillac (2009) considers that wine tourism is based of the attractiveness of the heritage built in the rural communities specialized in wine-growing. She defines wine tourism as "the whole range of tourist activities, of leisure and free time, dedicated to the cultural and oenophile discovery of the wine, the vineyard and its terroir" (Darmaillac, 2009, quoted by Anger, 2011, p. 14). Concluding on data definitions, we can say that the wine tourism is a vector for the discovery of "wine culture", with all its attributes: experiencing a certain lifestyle, an educational constituent, contacts with art, wine and gastronomy, an integrated tourist destination and a marketing opportunity for a region to develop its economic, social and cultural values.

DATA AND METHODS

In order to write this paper, we have used the classical research methodology, that is we have consulted the specialist bibliography related to tourism, from the international literature as well as the Romanian one, regarding wine tourism; we have studied as well the specialist bibliography having as subject the geography and wine-growing in the research area. The data base has been completed with the information acquired from the fieldwork. The tourist prospection stage was followed by the stage of work in the laboratory, during which the aspects that had been identified, localized, analyzed and described on the ground have been transposed into a final text. The spatial representation of some analyzed elements has been made by using a specialized software, named ArcGIS.

WINE - GROWING POTENTIAL OF ALBA COUNTY

The vineyards of Alba County

The vineyards of Alba County are part of the wine-growing region of the Transylvania Plateau, which includes the grape plantations from the basin of Târnave, Sebeş and Mureş, with five vineyards: Aiud, Alba Iulia, Sebeş-Apold, Lechinţa and Târnave. The grape plantations of Alba County are included in four of the five vineyards of the region, namely: Aiud, Alba Iulia, Sebeş - Apold and Târnave (Figure 1).

Aiud vineyard is located in the west of Transylvania Plateau (Figure 2), north of Alba-Iulia vineyard, the grape plantations being scattered on the hills from both sides of the corridors of lower Mureş and lower Arieş rivers (Teodorescu et al., 1987; Macici, 1996). The main winemaker of the vineyard is SC Domeniile Boieru SRL, a medium-sized producer who has been operating on the market since 2005. The vineyard has a large number of cellars (over 20) that are owned by small producers, the majority of whom are located in the grape plains of Ciumbrud and Aiud. The ecological conditions are favourable for obtaining high quality white wines, most of them bearing a designation of origin. *Alba Iulia vineyard*, one of the oldest in Romania, being regarded as a Dacian vineyard, is located on the hills at the eastern foot of the Apuseni Mountains, which spread on the right border of Mureş, between Geoagiu and Ampoi water streams (Martin, 1966; Popa, 2010); to the east, on the sunny slopes of Secaşelor Hills (Macici, 1996).

The vineyard includes the wine centre of Alba Iulia, encompassing some famous grape plains: Ighiu, Cricău, Şard, Ţelna, Craiva, Bucerdea Vinoasă and Sântimbru. The ecological conditions are favourable for obtaining dry, semi-dry and semi-sweet white wines, table wines or bearing a designation of origin, as well as those wines which constitute the raw material for the Alba Iulia sparkling wine (Oşlobeanu et al., 1991; Cotea & Andreescu, 2008).

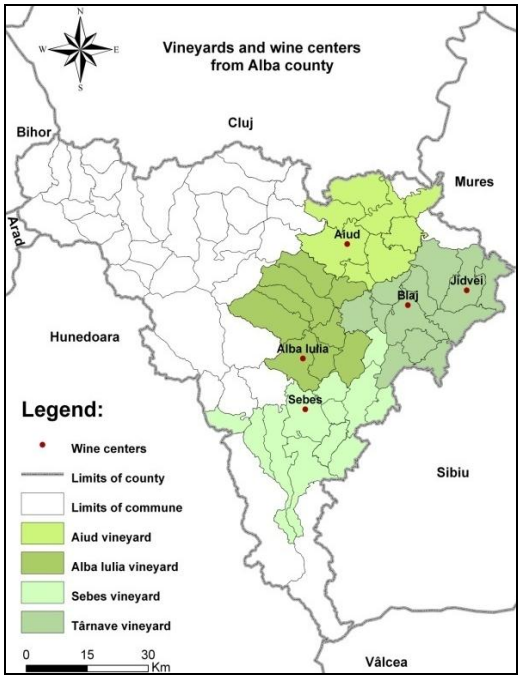

Figure 1. The vineyards and wine centers from Alba County

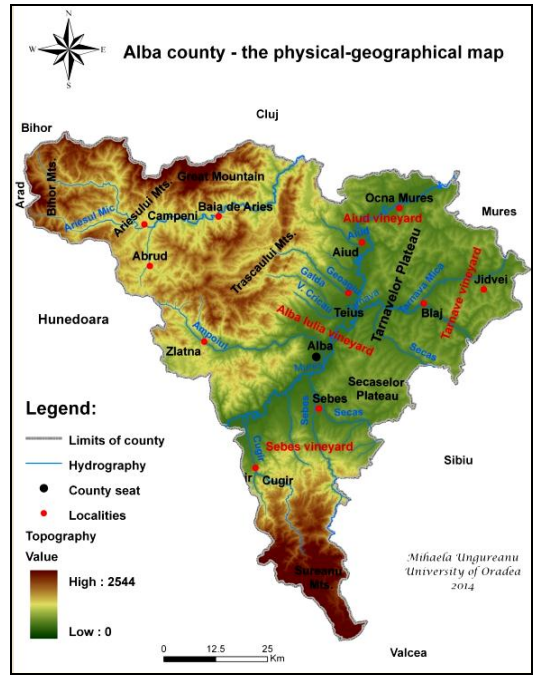

Figure 2. The physical - geographical map of Alba County

Sebeş – Apold vineyard, more precisely, the sector located within Alba County , is situated in the south-west of Transylvania Plateau. The grape plantations are spread on the northern extensions of Gârbova Hills, at the foot of Şureanu and Cândrel Mountains and on the southern extensions of the hills on the Secaşelor Plateau (Cotea & Andreescu, 2008). The wine centre Sebeş includes 11 grape plains, out of which we mention: Câlnic, Gârbova, Vingard, Spring, Daia Romană and Cut. The vineyard is the source of white wines, table wines or bearing a designation of origin, the main winemaker being SC Viticola Gârbova. Târnave vineyard is the largest and the most famous of Transylvania Plateau wine-growing region. The grape plantations, belonging to small groups, are situated in the hydrographic basin of Târnava Mare and Târnava Mică (Martin, 1966). Târnave vineyard spreads on the surface of three counties: Alba, Mureş and Sibiu and includes six wine centres: Mediaş, Zagăr, Târnăveni, Valea Nirajului, Jidvei and Blaj, the last two being situated in Alba County (Cotea & Andreescu, 2008).

In the wine centre Jidvei lies one of the first Romanian wine producers, also one of the most famous Romanian wine brands: SC Jidvei SRL. In the wine centre Blaj operate the Reasearch Station of Viticulture and Enology Blaj, as well as Târnave-Blaj Cellar. On the whole, the ecological conditions of Târnave vineyard are favourable for obtaining dry white wines, different varieties of sparkling wines bearing a designation of origin

(Târnave-Blaj, Târnave-Jidvei), as well as semi-dry or sweet white wines, liqueur and aromatic wines, which are obtained when the conditions for the development of the noble rot are met (Macici, 1996; Oşlobeanu et al., 1991).

The grape surface, production and varieties

In 2013, the total wine-growing surface (vineyards and grape nurseries) of Alba County was 4 656 ha, representing 45,8% of Transylvania Plateau grape surface and 2,2% of the Romanian grape surface. Concerning the surface of fruitful vines, Alba County owns 71% (3 860 ha) of the Transylvania Plateau wine region (5 390 ha). Out of the surface planted with fruitful vines, 3 348 ha are grafted vines and only 512 ha are hybrid vines. Regarding the annual grape production, it recorded strong fluctuations from one year to another, mainly due to the values of the climate elements in certain vegetation periods, as well as to the production of certain extreme meteorological phenomena. As we can notice in graph of Figure 3, the year 2014 was the most productive, the production reaching 32 557 tons of grapes (http://www.insse.ro/).

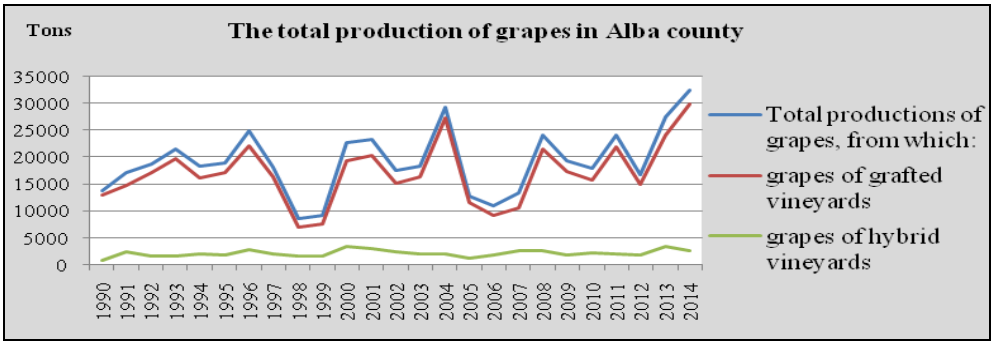

Figure 3. The total production of grapes in Alba County
(Source: http://www.insse.ro/).

In the four vineyards prevail the grape varieties for high-quality white wines, the majority of which bear a designation of origin, namely: Fetească regală, Fetească albă, Traminer roz, Riesling italian, Pinot gris, Chardonnay, Furmint and Sauvignon blanc, but also the variety for Muscat Ottonel aromatic wines. As for the wine varieties and their sugar content, the wines which come from the vineyards of Alba County can be: dry, semi-dry, semi-sweet and sweet (Cotea & Andreescu, 2008).

Together with these wines, we must highlight the sparkling wines from Târnave vineyards (Jidvei), Alba Iulia and Sebeş-Apold, considered to be some of the best of our country, a fact which justifies their ranking among the sparkling wines bearing a designation of origin (Macici, 1996). The Alba sparkling wine has been produced since 1969, and is obtained, in most of the cases, out of Pinot gris and Fetească regală. During the last years, in Târnave vineyard grape varieties for red wines (Pinot noir, Cabernet Sauvignon, Fetească neagră, Merlot and Syrah) were cultivated too, a fact which was made possible by the climate conditions of this area, which are favourable to the production of red wines.

WINE TOURISM POTENTIAL OF ALBA COUNTY

Alba County has a tourist potential harmoniously distributed on all its surface (Ilieş et al., 2014); to the west, in the mountain area, the natural tourist attractions prevail (Gozner & Avram, 2010; Avram & Gozner, 2012; Gozner & Zarrilli, 2012; Gozner, 2014, 2015), followed by the cultural-historical and religious ones, and in the east-central part,

the largest share belongs to anthropic tourist attractions, but also to wine-growing attractions (cellars, winemaking units, wine collections, castles etc.), (Figure 4). Regarding wine-tourism attractions, in Alba County there is an impressive number of cellars belonging, most of them, to small producers (Figure 5). To all this is added the wine-making SC Jidvei SRL - one of the main wine producers in Romania.

Futhermore, two wine-tourist attractions which cannot be omitted are the Reasearch Station of Viticulture and Enology Blaj, as well as Târnave-Blaj Cellar. As for the wine-related anthropic attractions, the castles have a special importance, due to their historical and architectural value. Some of them are already open for tourist purposes or there are on-going projects to achieve this. A good example is the Bethlen – Haller Castle of Cetatea de Baltă that represent the image of Jidvei Company.

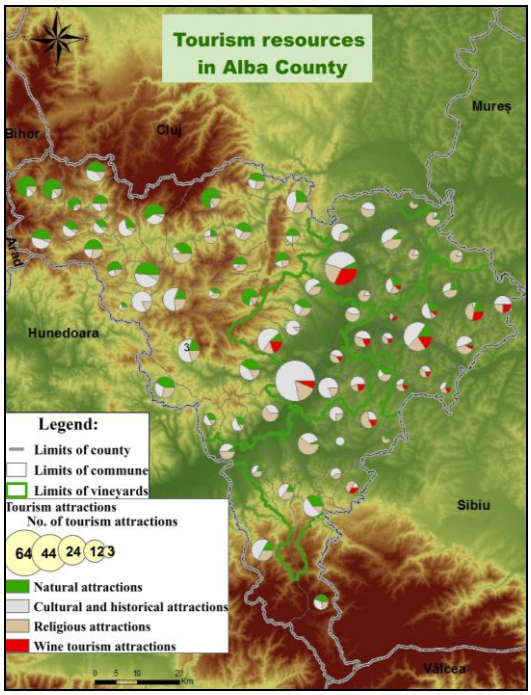

Figure 4. The tourist attractions distribution by categories, at the level of the communes in Alba County (Source: the official websites of localities' Town-Hall; field investigation, 2014)

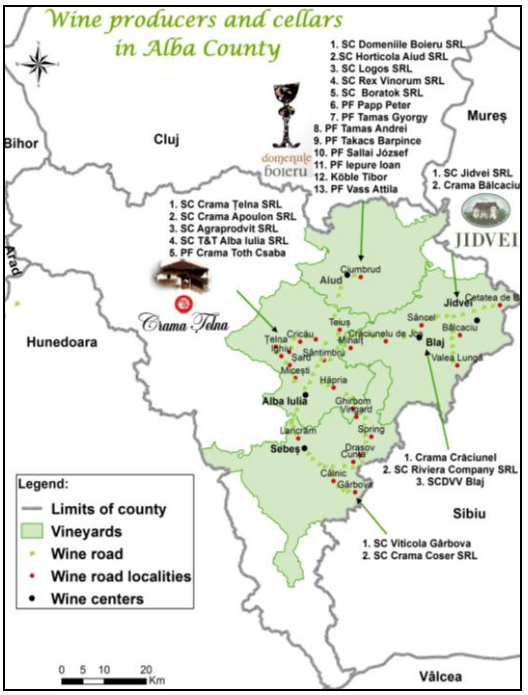

Figure 5. The distribution of wine-producers in the vineyards in Alba County (Source: data collected during the field survey, 2014)

Another category of tourist attractions located in vineyards, which could be harnessed by means of wine tourism are the natural reserves and monuments. The main protected areas which might be included in the tourist route "Wine road" are: the natural reserve "Pădurea Sloboda" (Aiud), the botanical reserve "Pădurea de stejar pufos" (Quercus pubescens) of Mirăslău, the botanical reserve "Pădurea Cărbunarea" (Blaj), "Teiul lui Eminescu" of Blaj, declared a natural monument, "Stejarul lui Avram Iancu" of Blaj, also declared a natural monument etc. At present, the majority of the wine tourism attractions of Alba County are harnessed by means of a tourist itinerary "Wine road".

Wine road in Alba County

The most efficient means to harness the tourist potential in the vineyards of Alba County is the "Wine road" - a marked itinerary along a delimited area, inviting tourists to

discover the wines produced in this area and the activities that can be practiced there. The tourist itinerary "Wine road" (Figure 6) includes the most important wine centres of Alba County. The trail passes through scenic, historic and cultural interest areas, covering a distance of more than 200 kilometers.

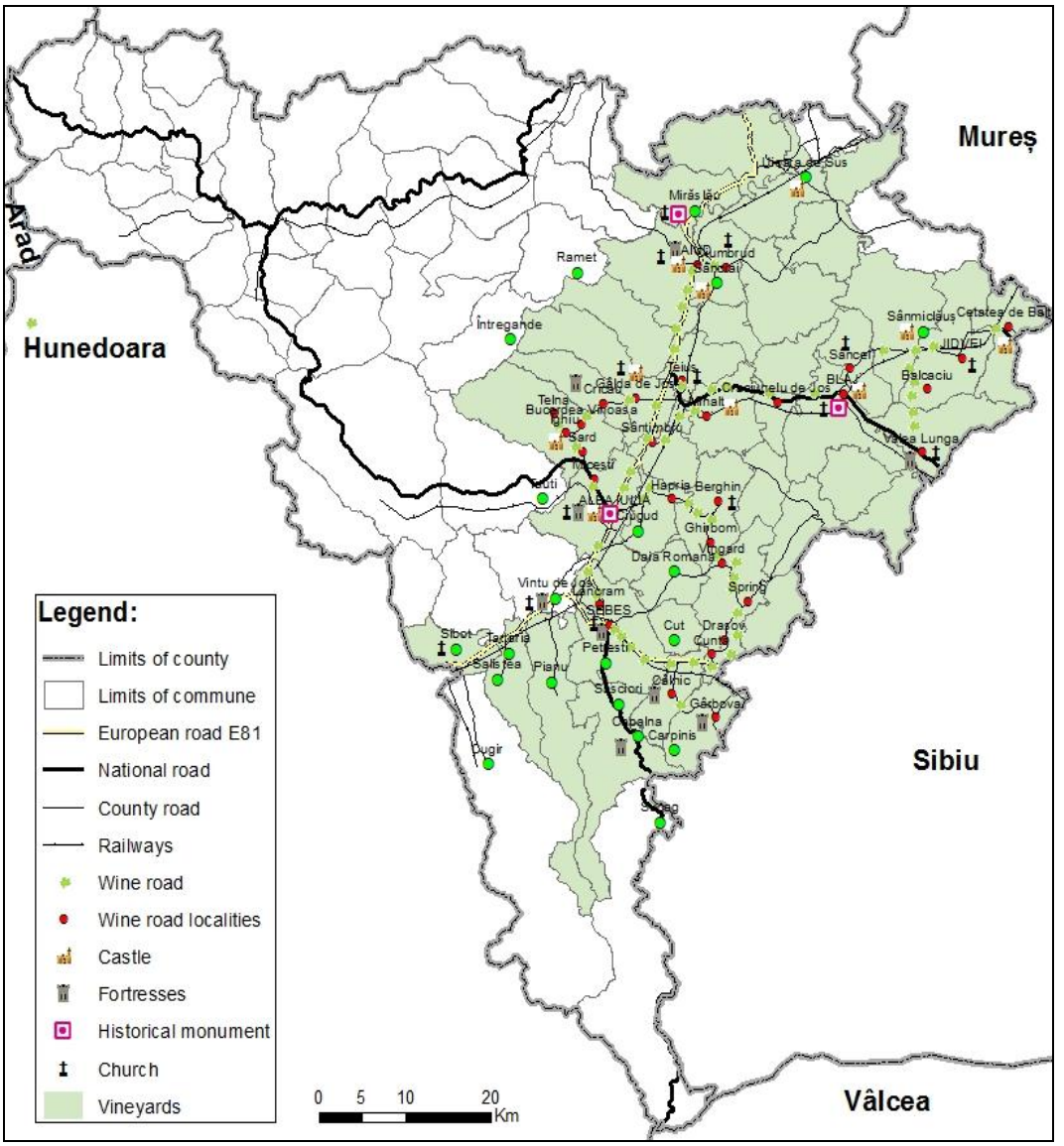

Figure 6. "Wine road" în Alba County

The wine tourism attracttion are grouped along the National Road DN 1 (E 81), having the advantage of a quick acces to the four vineyards of Alba County . Thus, from the National Road DN 1, which passes from north to south the vineyards Aiud, Alba Iulia and Sebeș, the National Road DN 14 B (Teiuș - Blaj – Valea Lungă) starts, allowing the access to Târnave vineyard, towards the wine center Blaj, then towards Jidvei, on the county road DJ

107 (Blaj – Jidvei - Cetatea de Baltă). At Blaj, the tourists can visit the Reasearch Station of Viticulture and Enology Blaj, Târnave - Blaj Cellar, but also many other cultural and anthropic tourist attractions. From Blaj, the wine itinerary heads towards the fascinating vineyards of Jidvei. The tourist can visit the winemaking department of the Jidvei company, one of the most famous and appreciated Romanian wine brands. The Jidvei company owns 4 cellars: Jidvei, Bălcaciu (the first industrial-type cellar of Romania, built in 1958), the Bethlen Haller Castle Cellar, in Cetatea de Baltă, built in the 15th century in Renaissance style (Sebestyén & Sebestyén, 1963) and the Tăuni Cellar (built in 2014). In Alba Iulia vineyard, the tourists can visit the cellars, as well as other tourist attractions from Ighiu, Ţelna, Bucerdea Vinoasă, Craiva, Cricău and Gâlda de Jos.

The wine road in Sebeş vineyard goes along the European Road E81, which links the wine centers Sebeş and Apold (Sibiu county); the County Road 106F splits from E81, allowing the acces to the cellars and to the other tourist attractions in Câlnic and Gârbova. In Câlnic, the tourists can visit the fortress included in UNESCO World Heritage. The most southern point on the "Wine road" is Gârbova, where one can visit the Viticola Gârbova Cellar, and also one of the oldest historical monuments of secular architecture in the country (13th century) – Greavilor Fortress (http://patrimoniu.gov.ro/).

Table 1. Services offered to the tourists by the winemakers included in the "Wine Road" (Source: field survey, September, 2014)

Nr. crt.	**Wineries / Cellars**	**Wine tasting**	**Cellar tour**	**Meeting winemaker**	**Cellar door selling**	**Restaurant**	**Acommodation**	**Vineyard tour**	**Vineyard bike tour**	**Vineyard tour on horseback**	**Grape harvesting**	**Landscape**	**Historical buildings**
1.	Jidvei	x	x	x	-	-	x	x	x	x	x	x	x
2.	Domeniile Boieru	x	x	x	x	-	-	-	-	-	-	x	-
3.	Apoulon Cellar	x	x	x	x	-	-	x	-	-	-	-	x
4.	Târnave-Blaj Cellar												
5.	Gârbova Cellar	x	x	x	x	-	-	-	-	-	-	-	-
6.	Crăciunel Cellar	x	x	x	x	-	-	-	-	-	-	-	-
7.	Ţelna Cellar	x	x	x	x	-	-	x	-	-	-	-	x
8.	Logos Cellar	x	x	x	x	x	x	-	-	-	-	-	x
9.	Takacs Borpince	x	x	x	x	-	-	-	-	-	-	-	-
10.	Rex Vinorum	x	x	-	x	-	-	-	-	-	-	-	-
11.	Papp Péter Cellar	x	x	x	x	-	-	-	-	-	-	-	-
12.	Tamas Gyorgy Cellar	x	x	x	x	-	-	-	-	-	-	-	-
13.	Tamas Andras Cellar	x	x	x	x	-	-	-	-	-	-	-	-
14.	Toth Csaba Cellar	x	x	x	x	-	-	-	-	-	-	-	-
15.	Sallai József Cellar	x	x	x	x	-	-	-	-	-	-	-	-
16.	Iepure Ioan Cellar	x	x	x	x	-	-	-	-	-	-	-	-
17.	Köble Tibor Cellar	x	x	x	x	-	-	-	-	-	-	-	-
18.	Vass Attila Cellar	x	x	x	x	-	-	-	-	-	-	-	-

Aiud vineyard represents the maximum concentration point of wine tourism attractions: six cellars in Aiud and seven cellars in Ciumbrud, plus a winemaking company - Domeniile Boieru. In Aiud, the tourist can visit one of the oldest urban fortresses in Transylvania (13th-16th centuries), and the Bethlen Castle within, which hosts the History Museum (http://patrimoniu.gov.ro/). In Alba County, out of the 18 winemaking units

which opened the door of their cellar to the visitors, only five offer a larger range of tourist services, namely: Jidvei, Domeniile Boieru, Apoulon, Ţelna and Logos (Table 1). Jidvei company is the only winemaker which has developed a concrete tourist offer, sold by means of travel agencies. The winemaking "Domeniile Boieru" was established in 2005 and it is a medium-sized wine-producer, but having real prospects of development. In order to develop the tourist segment, Domeniile Boieru society intends to build a pension within the vineyard and a restaurant having a seating capacity of 120 seats. The other cellars belong to the small producers.

They offer wine tastings directly in the cellar, and this is the moment when the tourist can meet the wine-producer and the whole history of the cellar and also the history of the wine, which can be purchased directly from the source. Alba County offers the possibility of other tourist itineraries, which, combined to the "Wine Road", can create a complete tourist package which may satisfy the most complex demands of the tourists. Thus, the tourists can combine the "Fortresses Circuit" with a historical circuit, including the monuments dedicated to the heros of the two World Wars (Câmpia Libertăţii from Blaj); also, tours can be organized to include the places of worship or the natural reserves situated in the vineyards of Alba County.

Wine-related cultural events

For the wine-lover tourists, there are two wine and vineyard-related cultural events which are organized on a yearly basis in Alba County , namely: "The Wine and Twin Cities Festival" (Aiud) and "The Golden Grape" contest-festival (Alba Iulia). These events promote the wine products and the local culture, represented by traditions, customs, handicrafts, gastronomy etc. The Wine and Twin Cities Festival is organized in Aiud at the end of the summer, or after the grape harvesting.

The events are attended by representatives of the twin cities of Aiud, namely: Cusset (France), Ponte de Sor (Portugal), Dingelstadt (Germany), Siklos (Hungary) and Cerepovet (Russia). On this occasion, the participants have the opportunity of tatsting the wines of other vineyards in order to compare them with the wines they have back home. The programme of the festival includes symposiums having as subject the wine-growing and wine-making traditions in Aiud vineyard. Also, the objectives and the prospects of the tourist programme "Wine road" are presented and the traditions and the customs of this area are highlighted in certain ethnocultural programs (http://www.taravinului.ro/).

The Golden Grape contest-festival is organized between the 11th and the 14th of September in Alba Iulia. This festival was created in 2001 by SC Jidvei SRL, having as a main purpose the preservation and the promotion of the Romanian traditional cultural heritage. One of the most important cultural-historical events organized in Alba County is the "Dacian Fortresses Festival". The event is organized in late June, having as a main aim the promotion of the historical heritage represented by the Dacian fortresses of Cricău, Cetatea de Baltă, Cugir, Ighiel, Săsciori, Căpâlna (UNESCO Heritage). The programme of the festival includes cultural events, but also wine tasting sessions organized under the aegis "the Dacian wine" (http://www.antrecalba.ro/).

Besides these festivals, several fairs are organized every year in Alba County, having as purpose the promotion of traditional culinary products, including the wines produced in the vineyards of Alba County. Among the best known fairs, we mention: "Gustos de Alba", "Apulum Agraria" and "Cununa Graiului" (http://www.taravinului.ro).

CONCLUSIONS

In Alba County lie four of the oldest and most famous vineyards of the country, where there are traditional cellars, renowned for the quality of their wines. The wine-tourism attractions, represented by: cellars, winemaking units, castles, fortresses,

historical monuments, places of worship etc., are placed along the famous Wine Road. The wine tourists can take part in wine tastings, visiting the cellars and the winemaking units in order to learn the wine-making process. The variety of tourist resources in Alba County offers the possibility of experiencing other forms or types of tourism (cultural tourism, ecotourism, rural tourism, agrotourism), which can be combined with wine tourism. To conclude, wine-tourism can be experienced in the vineyards of Alba County more as a form of itinerant tourism. In the rural localities situated in the vineyards, the tourist infrastructure is not so well developed yet as in other countries, famous for this form of tourism. Nevertheless, there are real prospects for the development of wine-tourism in the future.

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LANDSCAPES PROTECTION AND ECO-DEVELOPMENT: THE CASE STUDY OF GARGANO NATIONAL PARK, ITALY

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Abstract: Over the years, many interpretations have been given in terms of sustainable development and despite the different nuances in the concept interpretation, all the definitions tend to converge in a unique way within the environmental debate and everything related to the protection of territorial diversity. In these terms, even the Gargano National Park has moved in this direction, by promoting specific actions for the exploitation of natural resources and preparing the implementation of plans and programs for development of the territory. And it is just within the aspect of environmental sustainability that emerge the most critical points: the development of heterogeneous process has contributed to accentuate one of the main problems of the area – the road network – which, through a net shift of the tourists axis to the coast, has resulted in congestion of external road networks and lack in the internal networks. Therefore, although the tourism sector represents the largest source of actual and potential wealth of the Gargano's area, it doesn't yet reach the levels of development desirable relating to the major opportunities available over the region. In this work are highlighted lights and shadows of the development process that has characterized the last two decades about Gargano National Park, marking the aspects related to tourism, the promotion and development of the territory, highlighting the gaps and providing a key view about the possible construction of a real Local Tourist System.

Key words: landscape, carrying capacity, tourism attractiveness, Gargano, lack

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INTRODUCTION

The concepts of "Sustainability" and "Sustainable Development" tend to provide a better framework within which to plot the coordinates of the intervention guidelines with a growth pattern characterized by eco-friendly goals, which tend to preserve the natural environment. It is from decades that is told diffusely about the development, and is at least from thirty that are studied the interrelationships between the environment and

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development, searching the conditions that will allow the development to occur itself compatibly with the natural system (Cavuta, 2004).

In particular, in 1987, thanks to a document prepared by a special committee of the United Nations, the famous "Brundtland Report", was officially established, in its most complete form, an expression known as "sustainable development", defined on time as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". A significant contribution to its popularity was then given – in 1992 – by the Rio Earth Summit, during which much has been said and written on the subject of sustainable development. Even before the Brundtland Report, however, several other official documents told about sustainability; first of all, the United Nations Declaration on the Environment, held in Stockholm in 1972, from which emerges the concept of "eco-development", and where it was solemnly established that man has the right to dispose of an environment "whose quality allows him to live with dignity and well-being" and at the same time the "solemn duty to protect and improve the environment for present and future generations". In the 1972 was released the First Report of the Massachusetts Institute of Technology (MIT), at the Club of Rome, where, through the analysis of some key variables, such as pollution, industrial growth, the availability of natural resources, food production and population in particular, we arrive at the conclusion that there are clear limits to economic growth, and that, in the absence of a significant turnaround, the collapse of the entire man's socio-economic system is almost inevitable (Poch & Llordés, 2011).

The need to change course in human behavior is also emphasized by the report of the UNEP (United Nations Program for the Environment) of 1975, which speaks expressly of "another development", as well as the Brandt Report of 1980, in which is told in terms of "compatible development", and the UNEP-IUCN-WWF report where the idea of sustainability is understood in terms of durability in time, a kind of justice extended to the future (Dumont & Teller, 2005). The following documents to the Brundtland Report, first of all, the World Bank report and the Rio Declaration, both of 1992, and the Second Report Meadows '93, subscribe the definition of sustainable development contained in the Brundtland Report itself, maybe stressing, sometimes vigorously, the revolutionary significance of the sustainable society of the new millennium; there are also texts, such as the Second Report of the UNEP-IUCN-WWF '91, where the notion of sustainability seems to be understood, where reference is made to respect the carrying capacity of the environment, in terms closely environmental and less anthropocentric.

The Aalborg Charter in 1994, the "Charter of European cities for sustainable and durable development", signed in order to start a campaign for action on urban sustainability, explains the idea of "environmental sustainability" as the "maintenance of natural capital": this means, on the one hand, to consume renewable resources any more than they can naturally replenish, and non-renewable resources in order to allow the gradual replacement of these with alternative sources, and emit pollutants into the measurement that doesn't exceed the natural capacity of the environment to absorb and neutralize them. In particular, the document (particularly important for its potential operation), emphasizes the dynamic and not static sustainable development, which indeed is a "creative process, local, seeking balance" between the needs of human development and the characteristics of the environment, in an attempt to escape too harsh judgments of too rigid economists or too bright environmentalists.

Coming up today, finally, we can see that the socio-economic and cultural heterogeneity of the different visions of development, however, has led to multiple and conflicting definitions of sustainable development, not only for the different approaches adopted, but also for the conflicting ideologies environmental which it is based, from the

radicalism of the ecocentric environmentalist vision to the minimalism of the orthodox liberal thought which assumes the existence of a high degree of substitutability between all forms of capital (physical, human and environmental) and adopts a vision of strong sustainability. Therefore, currently, it is impossible to define a meaning or a uniquely shared content, but it is possible to classify the different definitions attributed over the years into three main groups (Caravita, 1990).

The first definition group pays particular attention to the natural environment and considers every human activity bound by the imposed conditions, conservation of biodiversity, the carrying capacity of the natural environment and the conservation of natural resources. The typical definition is provided by Pearce and Turner, who identified two necessary conditions for embarking on a path of sustainable development:

- It is not possible to exploit the natural resources at an utilization rate that is greater of their capacity to regenerate;
- The quality of the waste discharged into the environment should not exceed the absorption capacity of ecosystems.

In the case that these two basic conditions should not be respected then it should to be determined the environmental degradation with negative repercussions on the exercise of economic activities, which would be compromised in the long run. The second definition group emphasizes the topics related to the concepts of social justice and quality of life. In fact, many authors such as E. Barbier have applied the concept of sustainable development to the situation of the Third World underlining the need to improve the living conditions of poor people by improving 'supply, real income, education and health facilities, sanitation and water supplies, food supplies and money for emergencies..' or the definition provided in the report "State of the World" in 1988 by Lester Brown, the founder of the Worldwatch Institute, who argued: Start the world on a sustainable development will not be easy, given the environmental degradation and economic confusion that prevails today. Certainly, some small increase in investment in efficient energy use or in budgets will not be enough for family planning.

The ability to take a similar path depends on a total reordering of priorities and a fundamental restructuring of the global economy, as well as a revival of international collaboration, co-equal only to that which occurred after the Second World War. Only as long as the desire to ensure a sustainable future become a major concern of national governments, it will be possible to prevent the continued deterioration of the natural systems that govern the economic life, which is nullifying all efforts to improve the human condition". Finally, in the third group of definitions it prevail concepts of intergenerational equity, in fact, in this sense arise definitions provided by Goodland and Lendec: "Sustainable development is a pattern that optimizes the economic and social benefits in a given period of time without compromising the opportunity to enjoy the same benefits in future times. A priority objective of sustainable development is to pursue a reasonable and equitable distribution of the level of economic well-being in the way that this can be such as to be perpetuated for many generations". As can be seen from the foregoing, the concept of sustainable development is something that takes on different meanings, however, the commonly accepted definition of sustainable development is the one given by the Brundtland Commission, which can be interpreted as a model of development that requires the fulfillment of the two conditions represented by the intra and inter-generational equity (Barbieri, 1989). Therefore, to talk about sustainability, with reference to a protected area, it is necessary to adopt an eclectic theoretical approach and at the same time pragmatic, considering that both the over-exploitation of natural resources and their lack or inefficient utilization show to have harmful effects on the overall territorial and socio-economic balance of the area (Lazzari & Aloia, 2014).

THE GARGANO NATIONAL PARK

The park lies entirely in the Province of Foggia (Figure 1) and includes, in whole or in part, in its perimeter 18 municipalities: it includes most of the headland; the latter presents itself surrounded on three sides by the Adriatic sea and sloping down to the arid plains of the "Tavoliere", difficult barriers to overcome for many life forms that determine the condition to live in a kind of organic farming "island".

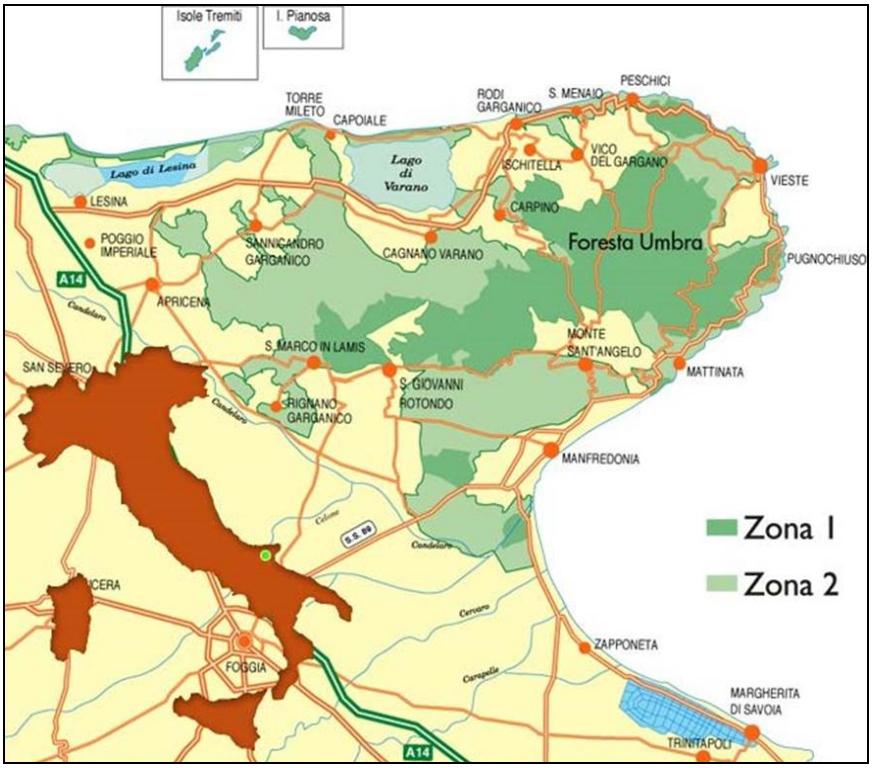

Figure 1. Perimeter of Gargano National Park (Foggia's Province)

The park was established by the "Legge Quadro" on Protected Areas (n° 394/91) and it has the peculiarity of a rich variety of environments that are followed in the space of a few kilometers and ranging from forests (the most important is the Foresta Umbra), grasslands, expanses dominated by strict limestone valleys to the plateau area full of sinkholes, from the marshes and coastal lagoons to the maquis. The park also includes the coastal lakes of Lesina and Varano (Landini & Leone, 1984), the top flaps of the coastal wetland near Manfredonia, the marine reserve of the Tremiti and eight nature reserves managed by the Forestry State (Sfilzi, Falasconi, Isola Varano, Monte Barone, Foresta Umbra, Bosco di Ischitella, Lago di Lesina, Palude di Frattarolo) and similar oasis of wildlife protection established by Puglia Region (Cavuta, 1995).

The Gargano is a promontory cloaked by coastal forests of pine and oak trees and by crops of almond, orange and olive trees. The low and sandy coast in the northern part becomes steeper with high limestone cliffs that open into coves of fine sand, very busy in the summer months. The interior is largely covered by vegetation of the Foresta Umbra that wraps the cape with beech and pine trees, forming the heart of the Gargano National Park. In this lush vegetation, perhaps the richest in southern Italy, the countries that are

part of, especially inside, have preserved their ancient structure, with winding streets and whitewashed houses: Vieste, San Menaio, Peschici and Mattinata. Regarding the Pedology and Geology, the Gargano's is composed mainly of sedimentary rocks, limestone and dolomite, Cretaceous and Jurassic (from 180 to 70 million years ago) mostly well stratified and affected by the phenomenon of karst dissolution. The only exception is Punta Pietre Nere, a mass of dark volcanic rocks dating back to the Triassic period (between 200 and 245 million years ago), outcropping on the Lesina's beach. The karst phenomenon, produced by the action of water and carbon dioxide on limestone rocks, especially prevalent in the Gargano promontory, has "carved" in many ways the landscape (Cardinale & Cavuta, 1995).

All along the margin of the large limestone block are found large erosive furrows that, with radial trend, head towards the sea or to the plain of Capitanata. We're talking about rocky ravines, attributable to the phenomenon of "dry valleys", known locally as "valloni", caused from interacting mechanical erosion and the action of karst, caused by the channeling of rainwater along the lines of maximum gradient, the which can also reach lengths of tens of kilometers. Another manifestation of karst are the more than 4000 sinkholes dotting the Gargano area (the sinkhole Pozzatina, more than 100 meters deep and with a diameter of about 500 meters is one of the largest in Italy). The deep karst is instead due to the existence of more than 600 caves, many of which are of archaeological interest (inhabited from the Paleolithic to the Bronze Age). There are also many caves (128): these caves have been originated first as underground phenomena and later were stripped due to the demolition of the limestone by the power of the waves. As for the permeability are distinguished: permeable karst rocks mainly due to the karst phenomenon that was started from the cracks of white organogenic limestone, irregularly stratified; are also found permeability rocks and karst mixed for cracking that occurs in dolomite and grey dolomitic limestone with flint (Sigismondi & Tedesco, 1995).

In the Gargano National Park there is one of the most extension core in Italy of pine forests of "Pino d'Aleppo" (7.000 ha). Until the mid-60s them had an important role in the production as provided wood products and resin; another common practice was the "spellecchiatura", i.e. the removal of the bark, which was used as tannic material to dye fishing nets. The economic value of the pine forest was a form of guarantee for the conservation of these formations. Currently, the productive function of pine is irrelevant in the general economic situation of the promontory, while it has become more important as function in landscape and tourism. Today, the extension of the pine forests of Gargano is less than a few decades ago; among the main causes behind this phenomenon there is the search of space for grazing and agriculture, as well as the messy, convulsive building development to create new tourism structures on the coast. Even the fire, being predominantly willful, pose a threat to these stands. Other formations of considerable interest to the promontory are represented by: cerrete (17.000 ha), currently jagged due to the strong forestry exploitation and unregulated grazing, copses of oak, beech trees (4.200 ha) and scrublands. The beech high forests are located mainly in the hilly areas exposed to North East and North West, where are present particular climatic conditions. The beech forests vegetate on the Gargano promontory from altitudes below 300 meters thanks to the humid northern sea currents, which generate relatively high rainfall (over 1200 mm/year in the Foresta Umbra).

The beech trees in the Foresta Umbra, in the woods of Ischitella and those in Monte Spigno represent an attraction for many visitors. In the reserve of Bosco di Ischitella the beech forest are located at the lowest altitude of Italy. The chestnut of Gargano, although most of the land can be attributed to Castanetum, is not very common and grows on land decalcified. The farming operations are almost absent and are limited

to plants that are found in arable land. In this case, the treatment is made for the arable land and the chestnut will benefit indirectly. In fact, the product does not fetches high prices on the market, and therefore neither aren't made new plants nor attempt was made to varietal improvement. The areas where the cultivation of the chestnut is still widespread are represented by two sides (parallel to each other and both facing north) located respectively one under the rocky crest of Monte degli Angeli (near Monte Sant'Angelo), and the another under the one between Monte Spigno and Monte Croce (in Falcare locations in the left side of the wide valley that leads from the "Casa Cantoniera di Umbra" to Carpino). The crops have taken place in the time of natural formations for reasons related to population growth and the consequent "land hunger" by the population. The orchards are located in a more or less spread throughout the Gargano, with species and different varieties depending on the environmental characteristics.

It can be found mostly in non-specialized culture species or varieties of fruit trees currently of minor importance but which in the past had a very important role in the food of the local people. Wheat, oats and barley have been the dominant component of the Gargano landscape until the last war. The maximum extension has occurred probably during the Fascist period when it was launched the government in favor of the cultivation of wheat. In many uncultivated areas, reflecting the extent of the crop, remain the countless courtyards for the beating, still easily recognizable. Currently, this crop survives only in the best lands of the promontory. In recent years, the cereal has gained interest by the employees, thanks to the Community incentives in favor of hard wheat. The turnaround of Community policy in this area suggests for the near future a significant reduction in cereal area for which, in all likelihood, there will be important changes also from the point of view of landscape (Baldacci, 1962).

FLORA AND FAUNA SYSTEM

Many of the approximately 2.000 plant species of Gargano's, amounting to more than 35% of the Flora Italica, are endemic to the area and very rare. From the point of view of flora, Gargano is a strip of land in the Balkans. Floras of eastern origin have landed on this promontory undergoing speciation processes, and thus it is possible to admire plants foreign to the Italian flora (Scabiosa dallaportae, Inula candida, etc..).

The special flora is enriched with the phenomenon of macrosomatismo and with endemism: almost all species, from herbaceous to woody ones, are presenting notable developments (height, leaf surfaces) that have often assume the presence of new varieties and new species that have enriched the vast endemism chapter, that is, as the species of Campanula Garganica, linked only to the cliffs of the Gargano. The beech forests, present in some nuclei limited also in the sub-Apennines, are typical of the Gargano, where they reach their maximum splendor. Some beech are located at lower altitudes (less than 300 meters) compared to the generality of peninsular beech forests (between 800 and 1.100 meters). They usually form mixed forests, sometimes they mingle with other types of woodland, especially cerrete, with which they come in contact. This tree species is favored by the particular climate of the promontory that provides abundant rainfall in late spring.

Among other species of trees of the park, it can be counted the Carpino, black Carpino, Orniello, Acero Campestre, Acero montano and Acero napoletano, Tasso, Olmo, Tiglio and Roverella. In addition to the species listed above, belonging to the Foresta Umbra, are also interesting the very large Cerri of Bosco Quarto, the lecceta of Monte Sacro and pine forests of Monte Barone and Monte Pucci, unfortunately greatly damaged by the action of arsonists (Canigiani, 1987). The presence in a limited area of diverse ecosystems promotes the richness and variety of wildlife. Particularly noteworthy is the number of species of nesting birds; in the wetlands of the lagoons of Lesina and Varano

and in the Palude Frattarolo, Foce Candelaro are nesting, wintering or summering the Airone rosso, Cavaliere d'Italia, Svasso, Moriglione, Smergo, Tirabuso, Spatola, Sgarza ciuffetta, Garzetta, Folaga, Germano reale, Fischione, Anatra. In Varano wintering the Cormorani, while in Saline of Margherita di Savoia are wintering and summering Fenicotteri. Mammals, since unfortunately disappeared for some time following the systematic hunting of large carnivores (bear, wolf, lynx), and large ungulates, except for a group of reintroduced Daini and Mufloni, they remain as a very significant presences.

Of particular note is that of Capriolo, with a core group of individuals considered to be among the few truly native dwelling in our country. There are also a number of forest mammals, the most common of which are the wild boar, fox, marten, weasels, badgers, and several species of bats forestry while rarer are the wild cat, the marten. Remarkable is the grazing of domestic ungulates also represented by local races such as the Vacca Podolica and Capra Garganica. Pigs are often left in the wild, making possible the crosses with wild congeners; intense is also the phenomenon of stray dogs. There are plenty of reptiles and amphibians, with seventeen species surveyed: Biacco, Cervone, Colubro of Esculapio, Colubro liscio, Geco verrucoso, Lucertola campestre, Luscengola, Natrice dal collare, Ramarro, Vipera comune, Rana greca, Rana verde, Rospo comune, Testuggine, Tartaruga palustre, Tritone crestato and Tritone italico (Lauriola & Palmieri, 1996).

Figure 2. A particular of “Testa del Gargano”

Also considering the invertebrate fauna, the Gargano stands out for its individuality: a recent study shows that of the 724 species of Macrolepidoptera known for Puglia, 70 are exclusive of the promontory. The depths of the Tremiti Islands (Figure 2) waters are rich of fauna and populated by numerous species of fish; in the medium-high waters, there are herds of serranids, such as serrano bag, and wrasses including the damsel. There are also the sparidi, with species such as bream and red snapper. Abundant is the presence of mullet and must be reported the presence of two signatidi: the seahorse and Pesce Ago.The shallower waters are populated instead by grouper, moray, octopus and schools cuttlefish and squid. An animal stands out among all for his presence: the Capreolus, this is a species that in recent decades has seen significant population and geographic growth in many Italian and European regions. This development, not only due to natural causes such as spontaneous recovery of

habitat suitable for the species, is the result of activity in restocking or reintroduction of foreign-born individuals, primarily for hunting. This deer weighs on average 15-27 kg, with a body length of 90-130 cm and a height of 60-70 cm. The coat, consisting of short and thick hair, takes on a vibrant red rust color in the spring while in the winter becomes grayish-brown (Bechieri & Bartolini, 2001). The Gargano's municipalities falling in Park covers a total area of 173.883 ha, which represents 24% of the territory of the Foggia's province with a population of approximately 135.000 inhabitants (2009) and shows a clear decline in population spread in all cities. We can see, however, some exceptions, especially those affecting the coastal municipalities, in which the increase of residents is correlated with the remarkable development of tourism activities.

It is a special case the town of San Giovanni Rotondo, whose population growth is linked to the development of the cult of Padre Pio and the health center. The road system comprises a main road formed by roads and trunk roads and a network of secondary roads. Road transport, especially in private, has achieved in recent years, especially in the summer to coincide influx of tourists, a level so high as to put a strain on the disposal capacity of the road network. A significant contribution to the solution of the problem will certainly be provided by the completion of the freeway bypass of Gargano, currently feasible up to Ischitella on the north side and up to Mattinata on the south side. It should be emphasized, moreover, that road transport is not, at current, functionally integrated with other systems, by public transport. Railway lines of the Gargano's area consist only of a secondary trunk of the State Railways, connecting Foggia and Manfredonia, and the Ferrovie del Gargano, which connect San Severo with the Calenella valley, near Peschici (Airaldi & Beltrami, 1987).

THE ECONOMIC SECTORS

The rural vocation of the province of Foggia is confirmed by the data relating to the agricultural sector development, which happens to be among the most important and characterizing one of the economy of this country. It helps, in fact, the Gross Domestic Product (GDP) with a provincial rate of 14%; this value is about twice the average calculated for Puglia and is almost four times higher than the national average. In this regard it is important to emphasize that, where there is availability of resources (especially water) and morphology allows it, are practiced intensive forms of agriculture, which are in opposition – in terms of profitability – to extensive cultivation forms, typical of the most disadvantaged areas, which are those that characterize most of the park territory with the exception of the flat area in the northern portion of the promontory.

About the industry, which constitutes 19% of the provincial GDP, there is a high incidence of the manufacturing sector, although the values are lower than both the regional average data, both at the national ones. With particular reference to the territory pertaining to the Mountain Community of Gargano, it is clear that the industry still has a development quite poor. The rates of industrialization are low and most of the companies have a size less than the provincial average. The manufacturing industry – in terms of employees – contributes 7.5% to the provincial total, with only rare exceptions.

A special case is the municipality of Ischitella in which the rate of industrialization is equal to 48.5% due to the emergence of a small group of companies that manufacture electric motors. The construction industry occupies a small percentage of provincial GDP (4.40%), but is characterized by bigger-sized companies. Among the specialized production of Gargano, we can count the manufacture of electrical machinery and electronic and optical equipment, motors, generators and transformers; these sectors still enjoy a certain vitality and workers make up about 91% of the province total for this category. These activities are concentrated in the towns of

Vico del Gargano, Vieste and, as mentioned, Ischitella. Other important manufacturing sector for the economic development of Gargano is the extraction of non-energy minerals, which mainly interests the towns of Vico del Gargano, Carpino and the municipalities in the southeast area, in particular Sannicandro Garganico.

The transport and communications sector accounts in the GDP with an average value higher than the entire region and the national level (9.68%). In the area pertaining to the Mountain Community of Gargano the industry and services productive structure records 5845 firms, 17.7% of enterprises in the province of Foggia, with an occupation of 13% of the employees. The average farm size is 1,8 employees per local unit (compared to 2,3 in the province of Foggia). If we consider that the inhabitants of this area are about 19% of the provincial ones, we can deduce that is present an economy characterized by a low level of population activity of the (80,2 employees per 1.000 residents, compared to 132,2 of the Province). The 96.4% of Gargano's companies doesn't exceed 5 employees and the percentage of firms that reach a higher dimension (6-9 employees) is equal to 2% of the total. Companies with a number of employees between 10 and 49 are 75, 32 of which spread over the municipalities of San Giovanni Rotondo and Vieste; those working in the food industry, in oil production, construction and services. Companies – instead – with a number of employees exceeding 50 units are located in the municipalities of Ischitella, Peschici and still San Giovanni Rotondo. With the exception of a fraction belonging to the industrial sector of the electric motors production, the other belong to the construction industry, personal services, tourism and business.

Over the past 15 years there has been a decrease in the average size of the Gargano's company, due in large part to the failure of large-size companies (first of all the ENICHEM, with over 900 employees, operating in the territory of Monte Sant'Angelo); at the same time, there has been an increase in the total number of enterprises. It emerges the growth of the construction and food industries, while there was a decline in traditional activities, such as woodworking. The textile and clothing sector has undergone a drastic reduction. In the handicraft, we note the positive balance of the tanneries activities and manufacture of leather products, which survive thanks to local and tourist demand (Varraso, 2004).

TOURISM ACTIVITY IN GARGANO

The tourism sector has absorbed – in recent years – much of the labor demand that has gradually created as a result of the decline of many traditional activities. The impact of tourism is particularly significant when we consider that in the territory of the Gargano have been settled more than 70% of the hotels and camps throughout the province and more than 13% of traditional services (Russo, 2004). The GDP value about the category "Business and Tourism", lower than the national and regional levels, is the 16% of provincial GDP, compared to 21% of the Puglia's data and 19.6% of the national one.

The Gargano area is the main tourism attraction of the Foggia's province, as it is clear from the distribution of structures: 68% of the hotels[1] and 90% of extra-hotel is located in the Gargano. The area began to attract the attention of large national and international tourist demand initially as a destination for beach and residential tourism; currently, the Gargano promontory is also attractive for other types of tourism: religious, cultural, sports, nature, rural and health care. The rediscovery of the Gargano's tourism offer – however – is happening slowly. In the past, the prevailing policy of the local authorities has led to the establishment of tourism facilities along the coast weakening the development of the historical centers of the inland areas and the existing environmental

[1] The municipalities of Apricena, Cagnano Varano and Rignano Garganico were excluded from the Table 1 since their hotel accommodation capacity is zero

and landscape heritage (Gismondi & Russo, 2007). These choices have led to a gradual deterioration of the image and attractiveness of Gargano's tourism, as well as an objective and substantial impairment of landscaping resources of the promontory.

In addition, the promotion of an exclusively seaside summer tourism has resulted in a strong seasonal attendance and has generated imbalances in favor of the coast places, with an expansion of urbanization without an organization and planning based on sustainable tourism development (the sewer system has remained almost the same over time with serious problems in the summer months), creating a considerable gap compared to inland areas (except the town of San Giovanni Rotondo). The park service structures, intended to tourist flows from other regions, should have a dual role: them could be able to serve the local residents and tourists who stay there. They should have – in the naturalistic tourism – the function of dissemination of information about resources in the park and how to tourist can use the same (Gismondi, 2001).

Table 1. Hotel accommodation capacity by municipalities in the Gargano National Park
(Data source: processing on "Parco Nazionale del Gargano", 2011)

Municipality	5-Stars & 5-Stars Luxor			4-Stars			3-Stars			2-Stars			1-Stars			Tourism Hotel Residence			Total of Hotels		
	Struct.	Beds	Rooms	Struct.	Beds	Rooms	Struct.	Beds	Rooms	Struct.	Beds	Rooms	Struct.	Beds	Rooms	Struct.	Beds	Rooms	Struct.	Beds	Rooms
Carpino	-	-	-	-	-	-	1	56	24	1	24	12	-	-	-	-	-	-	2	80	36
Ischitella	-	-	-	-	-	-	3	223	113	-	-	-	1	15	9	-	-	-	4	238	122
Isole Tremiti	-	-	-	-	-	-	11	513	238	5	100	51	4	68	33	-	-	-	20	681	322
Lesina	-	-	-	-	-	-	2	204	102	1	28	12	-	-	-	-	-	-	3	232	114
Manfredonia	-	-	-	2	292	146	6	416	215	2	49	28	-	-	-	2	680	187	12	1437	576
Mattinata	1	176	88	2	415	182	3	187	87	2	68	28	-	-	-	1	62	31	9	908	416
Monte Sant'Angelo	-	-	-	1	130	57	4	343	141	-	-	-	-	-	-	-	-	-	5	473	198
Peschici	-	-	-	5	813	405	10	646	341	10	363	176	5	114	56	2	608	191	32	2544	1169
Rodi Garganico	-	-	-	-	-	-	20	1657	748	3	58	39	1	24	15	-	-	-	24	1739	802
San Giovanni Rotondo	-	-	-	9	1329	675	58	3005	1701	24	1043	522	6	128	86	-	-	-	97	5505	2984
San Marco in Lamis	-	-	-	3	255	128	1	20	14	-	-	-	-	-	-	-	-	-	4	275	142
Sannicandro Garganico	-	-	-	-	-	-	-	-	-	1	22	12	-	-	-	-	-	-	1	22	12
Serracapriola	-	-		-	-	-	1	48	16	1	15	8	-	-	-	-	-	-	2	63	24
Vico del Gargano	-	-	-	-	-	-	6	360	197	-	-	-	1	13	9	1	170	14	8	543	220
Vieste	1	341	183	10	2292	821	18	2183	889	6	292	131	6	214	119	6	1357	445	47	6679	2588
Total Park's area	**2**	**517**	**271**	**32**	**5526**	**2414**	**144**	**9861**	**4826**	**56**	**2062**	**1019**	**24**	**576**	**327**	**12**	**2877**	**868**	**270**	**21419**	**9725**

The Gargano's tourism offer is mainly recognizable to the following types of accommodation: hotel, 270 exercises and a capacity of approximately 21.500 beds, with a predominance of two-and three-star hotels (56 and 144 structures) and a good

supply of four-star hotels – 32 structures – with only two five-star hotels (Table 1); extra-hotel, in the municipalities of Park there are 394 exercises, with a very high capacity (over 70.000 people), almost exclusively from campgrounds and resorts, with a note about the birth of many bed&breakfast in recent years; the other tourist facilities are of marginal importance (Table 2).

Table 2. Extra-Hotel accommodation capacity by municipalities in the Gargano National Park (Data source: processing on "Parco Nazionale del Gargano", 2011)

Municipality	Camping and villages		Housing for rent		Agrotourism		Homes for holidays		Bed and breakfast		Total of Extra-Hotels	
	N°	Beds	N°	Beds	N°	Beds	N°	Beds	N°	Beds	N°	Beds
Apricena	-	-	2	19	-	-	-	-	-	-	2	19
Cagnano Varano	5	1769	-	-	1	20	-	-	-	-	6	1789
Carpino	-	-	-	-	-	-	-	-	-	-	-	-
Ischitella	4	1313	-	-	3	48	-	-	3	27	10	1388
Isole Tremiti	2	611	11	113	-	-	-	-	2	15	15	739
Lesina	1	700	-	-	-	-	-	-	-	-	1	700
Manfredonia	5	1534	1	538	-	-	2	92	1	8	9	2172
Mattinata	10	3759	12	240	6	221	-	-	10	80	38	4300
Monte Sant'Angelo	2	850	1	20	2	28	-	-	-	-	5	898
Peschici	15	9171	22	2129	1	26	-	-	-	-	38	11326
Rignano Garganico	-	-	-	-	1	12	-	-	-	-	1	12
Rodi Garganico	11	4084	8	509	-	-	-	-	3	30	22	4623
San Giovanni Rotondo	1	120	44	379	-	-	2	74	24	205	71	778
San Marco in Lamis	-	-	2	8	-	-	-	-	-	-	2	8
Sannicandro Garganico	3	766	-	-	-	-	-	-	1	10	4	776
Serracapriola	-	-	-	-	-	-	-	-	-	-	-	-
Vico del Gargano	4	2256	2	60	1	40	-	-	2	22	9	2378
Vieste	94	36536	51	1687	5	92	1	144	10	96	161	38555
Total Park's area	**157**	**63.469**	**156**	**5702**	**20**	**487**	**5**	**310**	**56**	**493**	**394**	**70.461**

The accommodation capacity (number of exercises and beds) is concentrated mainly in the coastal towns, where there is the presence of about 73% of hotels and 88% of campsites and holiday parks, which corresponds to a bed offer respectively of 82% and 88%. Among the inland municipalities the exception is San Giovanni Rotondo, which – thanks to the health center and religious tourism exploded in the last twenty years – set up a tourism which constitutes about 15% of the hotels in the Gargano, corresponding to the 11% of the total beds. Comparing data about the total accommodation capacity of the hotel facilities and those extra-hotel, it is clear that the last one far exceeds the hotel sector (Zarrilli & Brito, 2013); this data confirms the trend of a quantitative tourism development (mass tourism) rather than qualitative (selected and/or alternative tourism).

In the last 15 years there has been a strong increase in overnight-stays, due both to domestic and to international tourism. The flow (Table 3) is dominated mainly by Italians, 81% versus 19% of foreigners; in particular, the presence are concentrated for 83% in the middle months of the year with a high degree of seasonality; the maximum value is recorded in the month of August, when it reaches 37% of overnight-stays, mainly due to the movement of Italian tourists (88%), foreigners – instead – while showing preference for the months of July and August, are distributed in a more balanced way in the period from May to September (Table 4). From the analysis of overnight-stays and arrivals for the hotels, it's clear how from 1995 to 2012 arrivals of Italian tourists signed an increasing trend, although not in a consistent manner, with the significant downturns in 1998-99 and 2004. Conversely, the overnight-stays – in the same timeframe – have not undergone significant decreases, except for the biennium 1998-1999 with about

50.000 fewer in overnight-stays than in 1997. Globally – about arrivals – we can say that although there has been a global increasing phenomenon, it is found to be slow and unsatisfactory for the amount of available accommodation.

Table 3. Italian tourism flow
(Data source: processing on ATP Foggia, 1998-2012)

Year	Arrivals	Overnight-Stays	Average Stay (days)
1998	472.690	2.225.081	4,7
1999	514.149	2.359.787	4,6
2000	511.319	2.486.961	4,9
2001	658.368	3.115.485	4,7
2002	709.754	3.334.320	4,7
2003	613.598	3.302.735	5,4
2004	667.227	3.431.262	5,1
2005	676.675	3.460.404	5,1
2006	675.256	3.515.145	5,2
2007	681.415	3.378.524	5,0
2008	807.433	3.649.272	4,5
2009	744.263	3.662.323	4,9
2010	741.023	3.630.337	4,9
2011	690.909	3.716.961	5,4
2012	656.236	3.583.706	5,5
Total	**9.820.315**	**48.852.303**	

Table 4. Foreign tourism flow
(Data source: processing on ATP Foggia, 1998-2012)

Year	Arrivals	Overnight-Stays	Average Stay (days)
1998	64.177	529.509	8,3
1999	72.628	653.384	9,0
2000	89.223	648.603	7,3
2001	81.543	619.503	7,6
2002	100.323	762.779	7,6
2003	100.724	677.877	6,7
2004	94.165	635.627	6,8
2005	97.159	593.851	6,1
2006	100.249	639.764	6.4
2007	97.849	509.772	5,2
2008	112.474	597.495	5,3
2009	110.030	580.708	5,3
2010	107.687	557.344	5,2
2011	118.666	623.590	5,3
2012	117.851	643.668	5,5
Total	**1.464.748**	**9.273.464**	

The average stay is about five days in the early years considered, and then increased to six/seven until the mid-2000s, returning – finally – to the initial situation in recent years. About the foreign incoming tourist flow is interesting to note that it remains constant from 1995 to 1999, with an interesting peak in 2000 in which we have seen a strong growth, as a logical consequence of the Jubilee and this event had a strong religious appeal by the municipalities of the park, in particular San Giovanni Rotondo. The extra-hotel tourism structures – considering Italian tourists – seem to be the best liked solutions, both in terms of arrivals and in terms of overnight-stays; flows annually register constant increments, obtaining a satisfactory result, also in relation to the fact that a significant part of data is unavailable, since it's not declared by the sources (Viganoni, 2007). The days of average length of stay have suffered a slight decrease,

from ten to nine about. The foreign tourist flow for extra-hotel structures maintains a fluctuating trend. Significant declines in arrivals have been recorded in 1998 and 2001. Considering the overnight-stays – instead – in recent years them have substantially come back to increase, recording the highest peak in 2012 with about 643.000 overnight-stays, facing the about 557.000 ones of 2010. In order to achieve a deeper reading of the data, we decided to proceed with the construction of three indices to provide a comprehensive interpretation of the current tourism situation in the Gargano National Park.

Specifically, the indices calculated are: the index of tourist pressure, the rate of composed receptive function and the gross utilization rate. The first, also called index of "turisticità"[2], measure the influence of tourism on the territory and on the host population; it is appropriate for measuring the intensity of tourist flows, regardless of the territory's size. In this case, it is clear (Figure 3) as in the area of Gargano there are four locations with high values: Rodi Garganico with a value of around 24, Peschici and Vieste with values close to 40 units, and finally the Tremiti Islands, with a value even higher than 50 units. All other municipalities have extremely lower values, in some cases close to zero, which confirm the huge regional imbalance present between the places of the coast and inland areas.

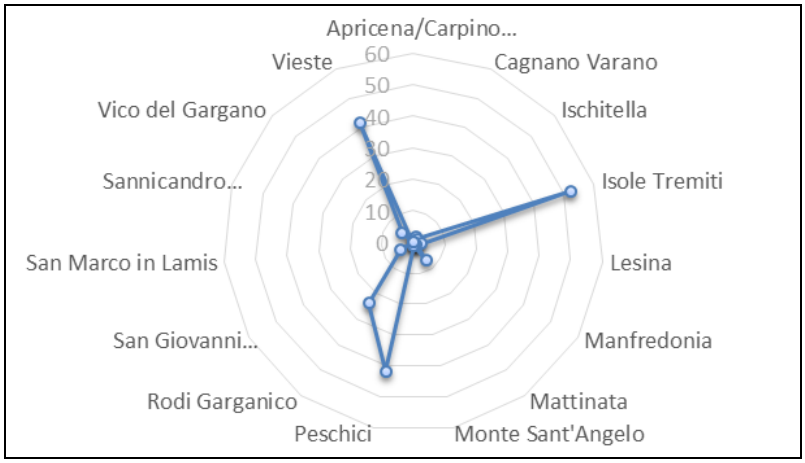

Figure 3. Index of Tourist Pressure
(Source: Personal Data Processing, 2015)

The rate of composed receptive function[3] consists, instead, in measuring the level of hospitality and tourism of the community, considering the receptive intensity taking into account the spatial extent; it is evident (Figure 4) that even in this case it is traced the strong influence of the coastline, with places like Vieste and Peschici that have the best range of tourism accommodation in quantitative terms, as well as the town of San Giovanni Rotondo, the only exception in the inland of Gargano.

The final assessment tool considered – the index of gross utilization[4] – measure in percentage terms how much have been used services and available facilities – in a tourism

[2] The Tourist Pressure Index, also called Rate of Tourist Function or Index of "Turisticità" is calculated by the ratio of visitors per year and the population multiplied by the days of the year [(p/(pop*365))*100]
[3] The Rate of Composed Receptive Function is given by the ratio between the number of beds and the average population, taking into account the surface of the area [(L/pop*S)*100]
[4] The Index of Gross Utilization is calculated by the ratio of visitors each year and the number of beds multiplied by the days of the year [(p/(L*365))*100]

destination – taking into account the size of the services with compared to the tourist flows; the last graph (Figure 5), in which are listed all the Gargano's municipalities in points form, shows a balanced distribution above and below the mean value, with 8 municipalities that exceed the 10% utilization and the remaining ones placed in the lower end.

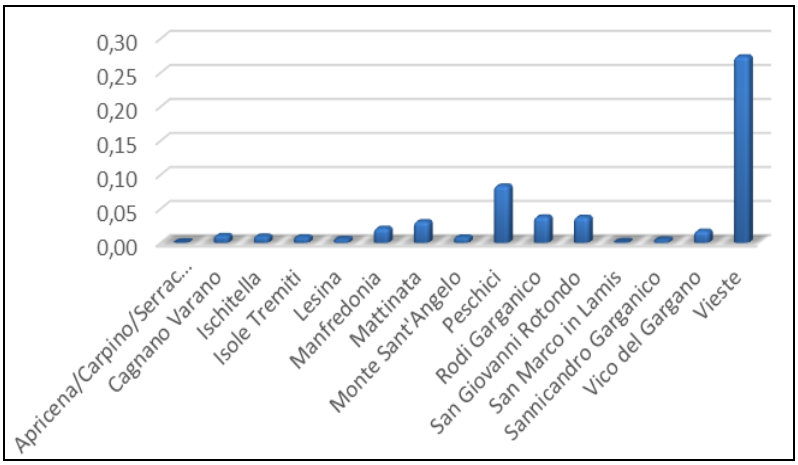

Figure 4. Rate of Composed Receptive Function
(Source: Personal Data Processing, 2015)

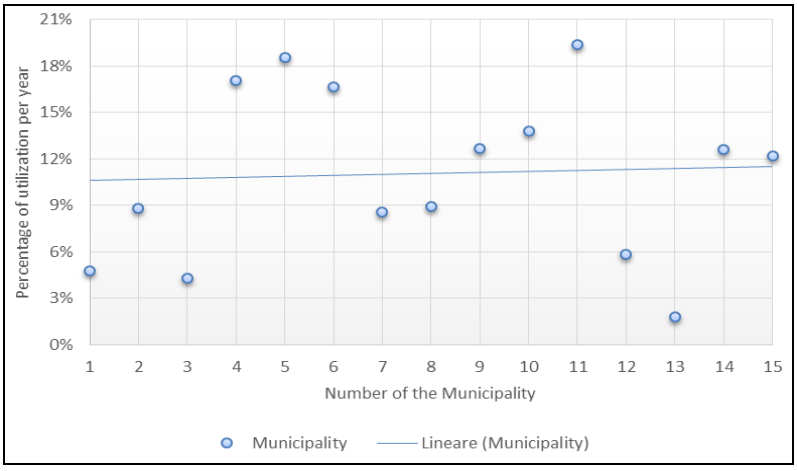

Figure 5. Index of Gross Utilization
(Source: Personal Data Processing, 2015)

Among the municipalities with the highest index we can count San Giovanni Rotondo and the Tremiti Islands, to which are added Lesina and Manfredonia, towns with a low rate of tourist pressure but with a good density of use (in these cases there is no saturation of the territory, this mean that the municipalities in question are engaged in a good attractiveness management without compromising the available resources and minimizing overcapacity); between the municipalities with the lowest utilization rate instead we could include San Nicandro Garganico, Ischitella, and 4 municipalities in the hinterland, the last ones grouped into one only variable, since they are actually devoid of consistency in the data.

CONCLUSIONS

The quality of information and tourism, next to the general communication activities of the area, represent two of the switching elements of the marketing mix currently seen as strengths (Costa, 2004). The major weak point, emerging from the operators responses, concern the economic resources for activities of tourism promotion. A large share of this value is attributable to tourism activity carried out in the Gargano, which is generally identified as the main tourist hub of the entire "dauna" province, considering that most of the hotel structures (about 68%) and extra-hotel ones (about 90%) is located in the Gargano. However, although the tourism sector in the Mountain Community of Gargano represents a central element of the local economic system, its consolidation and further development it would require an overall redevelopment. In fact, with the presence of the institution of Gargano National Park, the ways in which the industry has grown over time have to be reconsidered with a focus to the sustainable development of the territory, which enhances the natural environment and promotes the local economic rebalancing between inland areas and the coastal strip. Moreover, it is commonly known as the expansion of the tourism sector in the Gargano has concerned mainly some areas and is centered mainly on the summer and mass tourism, next to the religious one linked to the cult of Padre Pio. This situation has contributed to regional economic imbalances inside the area and, in some cases, has resulted in significant negative environmental impacts on the Garganico ecosystem.

The transformation process of the Gargano from the land of malarial plains and strenuous pastures in a popular destination for tourists, until the origins of a real tourism industry is closely linked to its environmental characteristics. The environmental, landscape, archaeological, religious and mythological interest of some areas of the headland since ancient stimulate several tourist trails of disproportionate beauty as well as a great social and cultural interest. Nowadays, we can see how on a total of 13 municipalities only 8 use as planning instrument the general regulator plan, while the remaining 5 municipalities use as a regulatory tool a manufacturing program, including the two largest municipalities in Gargano, San Marco in Lamis and Sannicandro Garganico. While it is true that in the evolution of planning legislation the manufacturing plan is equivalent to the general regulator plan, it does not perform the same tasks of planning also with signs of obvious limitations: in fact, the only town of San Marco in Lamis approved even 18 variants for the territorial transformation. It is also useful to remember that those municipalities which drew up the master plan have been able to approve it originally in the eighties and its validity occurred only after many years, when many territories had already changed, especially in a historical phase that has resulted in radical changes in some areas since the event of the Jubilee of 2000, in particular regarding public works and the hotel facilities that have involved – although with different intensity – the great centers of Gargano.

The situation that emerges from the socio-economic and territorial analysis highlights the problems and the change opportunities with which local authorities should to compare in order to start the creation of a Local Tourist System, which bases its foundations on social and territorial sustainability. From this analysis it is possible to outline the weakness points, characterized by the lack of both an internal network, consisting in the articulation of social groups, structures and especially economic interests, but also to an external network which should provide relations with other territories. Another source of weakness is the plan of local public transport in the province and in particular the reorganization of the public transport system in the Park: they are completely outside the logic of the new transport chain at the service of all systems DRTS (demand responsive transport system), i.e. transport with a flexible

demand, taxi bus, car sharing and car pooling. A further sign of weakness comes from the separation between the territorial planning and economic and social processes.

Finally, it is almost absent a planning of coastal ecosystems and river basins, highlighted by an imbalance between the strong areas, i.e. between the environmental and coastal areas (Cavuta & Di Matteo, 2013). But despite these gaps, there are good demands for a coordination between the institutions for regional planning and implementation of a strategic plan for the creation of a "Sustainable Local Tourism System"; there is a recovery and rehabilitation program of the land and structures, and finally, there is also a plan of flexible public transport for mobility in the area.

Ultimately, it can be stated that the establishment of a national park involves economies and diseconomies of scale: the cost for the local population must be distributed throughout the national community. The problem of free-riding, that is the presence of consumers who take advantage of collective consumption by not attending properly to their funding, who lead to sub-optimal bid for the public good, is partially solved with the establishment of a park, since natural resources become impure public goods (club goods), which form an intermediate class between public goods and private goods. It is justified, therefore, the intervention by the public authorities in order to regulate the use of natural resources, in order to avoid the "tragedy of the common properties". Moreover, it should be encouraged local economies: a very important aspect is the self-financing, which should support the state funding, pursuing a national park business model. Also in this case we must consider the optimal levels of public funding and the potential demand from which to draw resources for self-financing.

The situation of the Gargano National Park is exactly the same, where there is a vast territory and with various issues concerning its management, coordination and communication. We can say that it should always take as a reference point the principle that a park should be established, planned and designed to create sources of socio-economic development and enhancement of the natural and cultural history, always respecting the surrounding area, promoting policies for sustainable tourism and not isolate parts of the territory from the potential active participation of the population.

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THE RELIGIOUS ATTRACTIONS – AN EXPRESSION OF AUTHENTICITY IN THE TERRITORIAL SYSTEM ALBAC - ARIEŞENI AND ALBA COUNTY (ROMANIA)

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Abstract: The anthropic tourist fund becomes more and more important within the tourist heritage of the territorial system Albac – Arieşeni, due to its qualities of diversity, originality and uniqueness at a national and even world level. The tourist attractions constitute a touristic potential that can be valorised differently, according to the intensity and the means of perceiving the spiritual and cultural essence. In the context of the economic and social globalization, the way every nation can highlight its identity is by preserving and transmitting its spiritual and cultural values to the following generations. During the last decades, the tourist importance of the cultural and spiritual values has increased as they were introduced in the national and international tourist circuits.

Key words: wooden churches, stone churches, monasteries, anthropic tourist resources

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INTRODUCTION

The territorial system Albac – Arieşeni and Alba County own historical monuments of architecture or folk art, which attest the evolution and continuity of work and life in these regions. All this cultural and historical fund constitutes a significant part of the potential touristic offer and a component of the national and international touristic image of Alba County (Figure 1). The anthropic tourist resources of the representative

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area include the religious attractions. Religion and faith took shape by the erection of places of worship which demonstrate the spiritual continuity in Ţara Moţilor. Here, the leaders of the uprisings were also church builders and knew thoroughly what the values of the faith meant. Horea (one of the leaders of the 1784 peasants' revolt in Apuseni Mountains) built churches in Ţara Moţilor and Transylvania.

Figure 1. The map of Alba County

METODOLOGY

In order to realise this study related to elements of continuity and preservation of the cultural values in the territorial system Albac – Arieşeni and Alba County (Romania) we have used a series of classical geographical research methods, as well as a series of modern means. The bibliographic documentation included the consultation of literature and of specialty documentary sources. Along with the official data, we have used in the study a series of information obtained following the on-the-ground research, by applying certain methods used in geography: observation and description (Ianoş, 2000; Kothari, 2004); the method of the analysis refers to the geographical environment considered as a complex system; to know this system means to follow the elements and the relationships among them (Cocean, 2005); the graphic representations were made using certain specialised software, such as Arc Gis, Global Mapper, Adobe Photoshop and Microsoft Excel (Clifford et al., 2010); the method of synthesis led to the conclusions regarding the wooden churches in the territorial system Albac – Arieşeni and Alba County.

FINDINGS AND DISCUSSION

The religious edifices must highlight their authenticity and continuity in time, in relation with the socio-historical conditions. Regardless of whether they were built in wood, stone or bricks, they were adorned with skilfully carved furniture, with icons painted on wood, cloth, leather or glass support, but also with rich frescoes on the inside or on the outside. From a touristic perspective, these painting elements and the interior decorations are added to the oldness and to the architectural style, generating an attractive vast and multivalent motivation (Cocean, 2010).

We should only settle the border between the touristic value and the cultural value, as a derived function given by the own attractiveness of the anthropic resources. The specialists have added some selection criteria so that the anthropic attractions could be valorised in tourism activities. These are major criteria and they can underline the touristic attributes of the anthropic attractions (wooden churches, old historical centres, architectural monuments etc.). In the tourist activity, we take into account several important criteria for the classification of the anthropic attractions. In relation to the analysed area, these criteria are the following:

- the artistic value of the buildings due to the indoor and outdoor ornaments;
- the overall aesthetic value, which preserves fragments of a lifestyle ambiance;
- the cultural value, conferring uniqueness in relation to the hierarchical classification of this type of goods and conferring authenticity when compared to other anthropic elements;
- the value of the artistic and cultural events organized there, which increase its importance;
- the accessibility and the degree of tourist arrangements;
- the position of the anthropic attractions refers to the degree of accessibility, as well as to the facilities that are necessary in order to have them known and visited;
- the technical genius refers to the means that the artist used in order to create the works and the monuments. Generally speaking, the tourists are interested to know the artistic techniques used for the creation of these works and monuments;
- the degree of preservation and restoration refers to the cultural goods which have a good level of preservation and restoration, even if the good in question is an archaeological site or the ruins of old monuments;
- the degree of perception of the cultural goods refers to the coverage level of the anthropic resources, but it also reflects the way they are known by the potential tourists, and the way they contribute to the broadening of the cultural and educational horizon.

The ethnological hierarchy refers to the origin of the anthropic attractions, their position in the historical evolution of human civilisation and the transformations they have undergone in time and in space; it is important to relate to the different historical periods: pre-Christian, ancient, medieval, pre-modern and contemporary (Cândea & Simon, 2006). The specific classification criteria are specific standards of a certain field, according to which one is able to evaluate the archaeological, historic-documentary, artistic, ethnographic, scientific or technical importance of the cultural goods and by means of which one is able to determine the special or exceptional cultural value, establishing the legal category of the national cultural heritage that they belong to.

Other specific criteria which serve to separate the cultural goods from architecture can be found in the web page of the Ministry of Culture and of National Heritage (www.cultura.ro), out of which we can mention:

- the historical and documentary value – the criterion according to which one can assess if the cultural good serves to know an important or significant historical fact, in the sense that it represents a historical evidence of the period what that fact occurred;
- the memorial value – the criterion which helps to assess if the cultural good belonged to an important personality of the national or international history, culture and civilisation or represents a direct and significant testimony regarding the life and activity of that personality;
- the authenticity – the criterion which serves to assess if the cultural good was created manifestly by an identified author, or was produced in a workshop, in a manufacturing plant or in a factory precisely determined as belonging to a certain epoch, to a certain artistic style, to a certain culture or civilisation;
- the author, workshop or school – the criterion that serves to assess if the cultural good belongs to an important author or was produced in workshops, in manufacturing plants or in factories significant for a historical epoch, for an artistic style, for a certain culture or civilisation;
- the formal quality – the criterion that serves to assess if a cultural good is an important artistic production, an object of special or exquisite plastic expressiveness or an object that stands out due to the characteristics resulting from the execution technique (including the material support), from the uniqueness or rareness of the design, as well as from its creativity;

The degree of endurance of the building elements and their specificity, from settlement to faith, are recognizable, even nowadays, in the elements of an ancient tradition which constitutes the cultural heritage of the Romanian people in this Transylvanian region (Mocan, 2011). Even though Alba is one of the Romanian counties where the wooden churches representing historic monuments have not been yet fully registered, a real treasure nestles here, due to the authenticity and originality of these values, a treasure which deserves to be duly appreciated. This is why our research focuses on the quantitative, qualitative, typological and cartographic study of the wooden churches, true "pearls" of the traditional architecture of this Transylvanian region (Ilieş, 2014; Ilieş et al., 2008, 2014, 2015).

Further on, we shall try to highlight the cultural values inherited by the identity of the religious edifices, as well as their historic importance and in the end, their role in shaping the overall touristic space. By a comparative analysis from the perspectives of age, function, but especially of the building style, we can operate a differentiation into several categories of religious dwellings: churches, monasteries and hermitages. In Alba County, the religious dwellings can be grouped according to their age, but also to the material used for their construction. According to the type of material used for the construction, we can find the following categories: stone churches and wooden churches.

Stone churches

Among the stone churches, the oldest ones are the fortified churches. "Nowhere else in the world will you find so many fortified churches in such a small territory, a fact that proves the degree of generality of this phenomenon within a geographical and ethnocultural area. They represent an exceptional architectural product due to the diversity and to the use of the range of defensive patterns of the late European Middle Ages" (cimec.ro). The spiritual and defensive centre of each rural community was the fortified church, meant to resist to the frequent forays made by the Turks and Tatars during the 12th-15th centuries. In Alba County, 19 localities have fortified churches: Aiud, Teiuş, Sebeş, Bălcaciu – the commune of Jidvei, Boz – the commune of Doştat, Câlnic, Cenade, Ighiu, Jidvei, Mănărade, Pianu de Jos, Reciu – the commune of Gârbova, Şard - commune Ighiu, Valea Lungă, Veseuş – the commune of Jidvei, Vingard – the commune of Şpring, Vinţu de Jos, Vurpăr – the commune of Vinţu de Jos, Petreşti (Table 1).

Table 1. The stone churches representing historical monuments in Alba County
(Data source: Ministry of Culture and Cults)

	Name	Locality	Age
1.	Franciscan church	Alba Iulia	18th century
2.	Goodavestire Church	Alba Iulia	1783
3.	Sf. Treime Church (Maieri I)	Alba Iulia	1795
4.	Adormirea Maicii Domnului Church	Alba Iulia	1691
5.	Archdiocesan Cathedral or Reîntregirii	Alba Iulia	1921
6.	Roman Catholic Church	Abrud	15th -18 th century
7.	Sf. Apostoli- Church ensemble - Soharu	Abrud	18th - 19 th century
8.	Sf. Apostoli Church	Abrud	1787
9.	Evangelical chapel	Aiud	18th - 19 th century
10.	Church	Aiud	1728-1763 - Church, 1896 - tower
11.	Schimbarea la Faţă - Church Suseni	Almaşu Mare	1822
12.	Buna Vestire Church - Joseni	Almaşu Mare	1418, modified 19th century
13.	Cuvioasa Paraschiva Church ensemble	Ampoiţa; Meteş	17th -19 th century
14.	Cuvioasa Paraschiva Church	Ampoiţa; Meteş	17th century
15.	Învierea Domnului Church	Baia de Arieş	1769
16.	Stone Church Ensemble	Băcăinţi; Şibot	13th century
17.	Tower Stone Church (ruins)	Băcăinţi; Şibot	13th century
18.	Fortified Evangelical Church Ensemble	Bălcaciu; Jidvei	13th century
19.	Evangelical Church	Bălcaciu; Jidvei	15th - 19 th century
20.	Roman Catholic Church	Bărăbanţ; Alba Iulia	1302, modified 17th century
21.	Reformed Church Ensemble	Benic; Galda de Jos	13th - 18 th century
22.	Reformed Church (ruins)	Benic; Galda de Jos	13th -16 th century, modified 18th c.
23.	Sf. Treime Greek Catholic Cathedral	Blaj	1741 - 1749, exterior 1835 - 1842
24.	Ensemble Greek Catholic Metropolitan	Blaj	16 th - 19 th century
25.	Metropolitan Residence	Blaj	1535, modified 1837
26.	Metropolitan Chancellery	Blaj	18th century
27.	Sf. Arhangheli Church ensemble	Blaj	18th - 19th century
28.	Sf. Arhangheli Church (the greeks)	Blaj	cca. 1770
29.	Fortified Evangelical Church Ensemble	Boz; Doştat	16 th - 18th century
30.	Fortified Evangelical Church	Boz; Doştat	1523
31.	Reformed Church	Bucerdea Grânoasă	16 th -18th century, exterior
32.	Adormirea Maicii Domnului Church	Cărpiniş; Gârbova	18th century
33.	Chapel	Câlnic	13 th - 15th century
34.	Evangelical Church	Câlnic	14th century, modified 16th - 19th c.
35.	Evangelical parsonage, today Foundation headquarters "Ars Transsilvaniae"	Câlnic	16 th - 18 th century
36.	Fortified Evangelical Church Ensemble	Cenade	14 th - 15th century
37.	Evangelical Church	Cenade	15th century, modified 19 th - 20 th c.

38.	Gooda Vestire Church	Cergău Mare	1804
39.	Reformed Church	Cetatea de Baltă	13th - 15th century, modified 19th c.
40.	Sf. Nicolae Church	Cib; Almaşu Mare	1750
41.	Sf. Arhangheli Church	Cicău; Mirăslău	15th century, modified 18th c.
42.	Chapel	Cisteiu de Mureş	18th century
43.	Reformed Church Ensemble	Ciumbrud	13 th - 14th century
44.	Reformed Church	Ciumbrud	13th -18 th century, exterior 1918
45.	Roman Catholic Church	Colţeşti	1727, rebuilt 1897
46.	Cloister (Franciscan cloister)	Colţeşti	1727
47.	Fortified Reformed Church Ensemble	Cricău; Cricău	13 th - 15th century
48.	Reformed Church	Cricău; Cricău	13 th - 15th century
49.	Orthodox parish house	Cricău; Cricău	19th century
50.	Sf. Arhangheli and Sf. Treime Church	Cugir	1808
51.	Pogorârea Sf. Duh Church	Daia Română	17th century
52.	Naşterea Maicii Domnului Church	Feneş; Zlatna	1750
53.	Naşterea Maicii Domnului Church	Galda de Sus	1715
54.	Sf. Arhangheli Church	Galda de Sus	17th century, 1750- 1800
55.	Romanesque church - "Bergkirche" (ruins)	Gârbova	13th century
56.	Roman Catholic Church (ruins)	Gârbova de Jos; Aiud	13 th - 15th century
57.	Din Deal Church (ruins)	Gârbova de Sus; Aiud	14 th - 15th century
58.	Naşterea Maicii Domnului Church	Gârboviţa; Aiud	14th century, modified 18th c.
59.	Pogorârea Sf. Duh Church	Hădărău; Lupşa	1770 - 1800,1862
60.	Cuvioasa Paraschiva Church	Ighiel; Ighiu	18th century
61.	Cuvioasa Paraschiva Church	Ighiu	1724, tower- belfry 1761
62.	Reformed Church Ensemble	Ighiu	15-18th century
63.	Reformed Church , fostă biserică Evangelical	Ighiu	18th century
64.	Casa parohială reformată	Ighiu	18th century
65.	Sf. Arhangheli Church	Izbita; Bucium	18th century
66.	Evangelical church ensemble	Jidvei	15th century - 18
67.	Evangelical Church	Jidvei	15th century, modified 1795
68.	Belfry tower	Jidvei	15th century
69.	Adormirea Maicii Domnului Church	Livezile	1611, 1848
70.	Reformed Church	Lopadea Nouă	15th century, 1864 (tower)
71.	Sf. Gheorghe Church	Lupşa	1421, ext. 18th century- 19th century
72.	Sf. Treime Church Ensemble	Măgina; Aiud	17th century - 18
73.	Sf. Treime Church	Măgina; Aiud	1611, exterior 18th century
74.	Schimbarea la Faţă Church	Mănărade; Blaj	1737
75.	Evangelical church ensemble fortificate	Mănărade; Blaj	17th century - 19
76.	Evangelical Church	Mănărade; Blaj	1864
77.	Incintă fortificată, cu Belfry tower	Mănărade; Blaj	17th century
78.	Cuvioasa Paraschiva Church	Mesentea; Galda de Jos	1782
79.	Cuvioasa Paraschiva Church	Meteş	1780
80.	Reformed Church	Noşlac	15th century, modified 18th century
81.	Roman Catholic Church	Ocna Mureş	18th century
82.	Ensemble former evangelical churches	Petreşti; Sebeş	14th - 18th century
83.	Belfry tower	Petreşti; Sebeş	14th - 18th century
84.	Reformed Church	Petri; Blaj	13th century, exterior 15th century
85.	Evangelical church ensemble	Pianu de Jos; Pianu	13th - 19th century
86.	Evangelical Church	Pianu de Jos; Pianu	13th – 15 th century, modified 1798
87.	Cuvioasa Paraschiva Church	Pianu de Jos; Pianu	1780
88.	Cuvioasa Paraschiva Church	Poiana Ampoiului	1700 - 1761, modified 1918
89.	Sf. Dumitru Church	Poieni; Vidra	18th century
90.	Reformed Church	Rădeşti	18th century
91.	Evangelical church ensemble	Reciu; Gârbova	13th - 18th century
92.	Evangelical Church	Reciu; Gârbova	13th - 15th century, modified 1801
93.	Orthodox parish house	Roşia Montană	19th century
94.	Adormirea Maicii Domnului Church	Roşia Montană	1741, balcony 19th century
95.	Roman Catholic Church	Roşia Montană	1860 - 1870

96.	Unitarian Church	Sânbenedic; Fărău	15th - 18th century
97.	Sf. Nicolae Church Ensemble	Sânbenedic; Fărău	18th century
98.	Reformed Church Ensemble	Sâncrai; Aiud	1830
99.	Reformed Church	Sâncrai; Aiud	13th - 18th century
100.	Wooden belfry	Sâncrai; Aiud	1830
101.	Castle Banffy Ensemble	Sâncrai; Aiud	1903
102.	Unitarian Church	Sânmiclăuş; Şona	
103.	Reformed Church	Sânmiclăuş; Şona	
104.	Reformed church, former Greek Catholic	Sântimbru	13th century - 16
105.	Învierea Domnului Church	Sebeş	1819
106.	Adormirea Maicii Domnului Church	Sebeş	1778
107.	Sf. Bartolomeu Roman Catholic Church	Sebeş	14th - 18th century
108.	Evangelical church ensemble	Sebeş	13th - 16th century
109.	Evangelical Church	Sebeş	13th - 16th century
110.	Sf. Iacob Chapel	Sebeş	cca. 1420
111.	Reformed Church Ensemble	Şard; Ighiu	15th - 18th century
112.	Reformed Church, evangelical churches	Şard; Ighiu	15th - 18th century
113.	Adormirea Maicii Domnului Church	Şibot; Şibot	19th century
114.	Intrarea în Biserică a Maicii Domnului Church	Teiuş	16th century, exterior 1885
115.	Evangelical Church	Teiuş	14th - 19th century
116.	Roman Catholic Church	Teiuş	15th - 18th century
117.	Sf. Arhangheli Church	Tiur; Blaj	1730
118.	Evangelical church ensemble	Valea Lungă	14th - 18th century
119.	Evangelical Church	Valea Lungă	14th century,1681, 1721, 1725
120.	Naşterea Maicii Domnului Church	Valea Lupşii; Lupşa	1799
121.	Naşterea Precistei şi Izvorul Tămăduirii Church	Valea Mănăstirii; Râmeţ	14th century
122.	Adormirea Maicii Domnului Church	Valea Sasului; Şona	1790
123.	Evangelical church ensemble	Veseuş; Jidvei	16th - 19th century
124.	Evangelical Church	Veseuş; Jidvei	1504
125.	Belfry tower and gate	Veseuş; Jidvei	1825
126.	The bell tower of the Sf. Mihail şi Gavril church	Veza; Blaj	18th century
127.	Sf. Arhangheli Church	Vidra; Vidra	13th - 17th century
128.	Evangelical Church	Vingard; Şpring	1461, 18th century
129.	Adormirea Maicii Domnului Church	Vinţu de Jos	cca.1700
130.	Roman Catholic Church	Vinţu de Jos	1726
131.	Cloister	Vinţu de Jos	1726
132.	Evangelical church ensemble	Vinţu de Jos	14th - 19th century
133.	Evangelical Church	Vinţu de Jos	14th - 19th century
134.	Evangelical church ensemble	Vurpăr; Vinţu de Jos	1300 - 1350, 15th - 16th century
135.	Evangelical Church	Vurpăr; Vinţu de Jos	1300 - 1350
136.	Sf.Nicolae and Naşterea Maicii Domnului Church	Zlatna	1770 - 1780
137.	Adormirea Maicii Domnului Church	Zlatna	15th century, 1696, 1744
138.	Trinity	Sartăş; Baia de Arieş	14th century
139.	Trinity chapel	Şibot	1899

The inclusion of these attractions in the international touristic circuit is supported by Prince Charles of Great Britain, who has visited several times the Transylvanian villages, has bought a house in Viscri and has set up a foundation which prepares the local workforce for the restoration of the houses and of the fortified churches. Another tourist attraction in the form of a religious dwelling is the Coronation Cathedral of Alba Iulia, also known as the Union Cathedral, one of the largest stone churches in the whole Transylvanian region.

The church is dedicated to the Holy Archangels Michael and Gabriel and it also reveres the memory of Michael the Brave, an important personality of the Romanian history. The Cathedral also witnessed the coronation of King Ferdinand I and of

Queen Mary, two outstanding personalities of Greater Romania. Their busts are placed at the entrance of the cathedral, reminding of the significance that this stone church has had throughout the Romanian history.

Wooden churches

While trying a practical approach, in this endeavour, we must underline the fact that the wooden churches represent one of the most important component of the Romanian cultural heritage and Alba County has inherited a rich endowment of such edifices. Among these, the most numerous and the best preserved such churches are located in Velley Arieşului and Velley Mureşului. Some of them date back to the 17th -18th centuries and face a permanent state of decay; they have not been introduced into tourist circuits of local, regional or international interest: the wooden church "Pious Parascheva" from Vingard, the commune of Şpring (17th century), the wooden church "The Holy Archangels" of Şpălnaca, the commune of Hopârta (16th century), the wooden church "The Holy Archangels" of Sânbenedic, the commune of Fărău, (1837), the wooden church "Saint Peter" of Berghin (1707).

Table 2. The wooden historical monuments in Alba County
(Data source: Ministry of Culture and Cults)

Nr. crt.	Name	Locality	Age
1.	Sf. Nicolae Wooden church	Alba Iulia	1768, modified 19th century
2.	Învierea Domnului Wooden church	Alba Iulia	1769
3.	Înălţarea Domnului Wooden Church ensemble	Arieşeni	1791
4.	Înălţarea Domnului Wooden church	Arieşeni	1791
5.	Sf. Theodor Tiron Wooden church	Băgău; Lopadea Nouă	1733, modified 1847
6.	Sf. Constantin şi Elena Wooden church	Bârleşti; Mogoş	1844
7.	Sf. Arhangheli Wooden church	Cisteiu de Mureş	18th century
8.	Sf. Arhangheli Wooden church	Cojocani;	1700 - 1769
9.	Sf. Arhangheli Wooden church	Copand; Noşlac	17th century
10.	Sf. Arhangheli Wooden church	Dealu Geoagiului; Întregalde	1742, exterior 19th century
11.	Sf. Arhangheli Wooden church	Fărău; Fărău	1664
12.	Sf. Arhangheli Wooden church	Fărău; Fărău	1762,1842
13.	Sf. Arhangheli Wooden church ensemble	Găbud; Noşlac	18th – 19 th century
14.	Sf. Arhangheli Wooden church	Găbud; Noşlac	1776,1874 - 1875
15.	Wooden belfry	Găbud; Noşlac	19th century
16.	Sf. Ioan Botezătorul Wooden church	Gârda de Sus	1792,modified 1863
17.	Sf. Arhangheli Wooden church	Geogel; Ponor	1751, modified 1848
18.	Sf. Nicolae Wooden church	Ghirbom; Berghin	1688, exterior 19th century
19.	Sf. Trei Ierarhi Wooden church	Goieşti; Vidra	18th century, (1792)
20.	Sf. Ilie Wooden church	Întregalde	1774, modified 19th century
21.	Sf. Arhangheli Wooden church	Lăzeşti; Scărişoara	1700 - 1738, exterior 1878
22.	Botezul Domnului Wooden church	Lunca Largă; Ocoliş	18th century
23.	Pogorârea Sf. Duh and Sf. Arhangheli Wooden church	Lunca Mureşului	1723, modified 19th century
24.	Sf. Arhangheli Wooden church	Noşlac	1700 - 1783, modified 1923
25.	Cuvioasa Paraschiva Wooden church ensemble	Pianu de Sus; Pianu	18th century
26.	Sf. Arhangheli Wooden church	Poşaga de Sus; Poşaga	1789
27.	Sf. Arhangheli Wooden church	Runc; Ocoliş	1733, rebuilt 1852
28.	Pogorârea Sf. Duh Wooden church	Sartăş; Baia de Arieş	1780
29.	Sf. Arhangheli Wooden church	Săliştea	a former monastery Cioara
30.	Sf. Nicolae Wooden church	Sânbenedic; Fărău	18th c. rebuilt 1730,1773
31.	Wooden belfry	Sânbenedic; Fărău	18th c. rebuilt 1730,1773
32.	Wooden belfry	Sâncrai; Aiud	1830
33.	Cuvioasa Paraschiva Wooden church	Sub Piatră; Sălciua	1798, exterior, 19th century
34.	Sf. Nicolae Wooden church ensemble	Şilea; Fărău	18th - 19th century
35.	Sf. Nicolae Wooden church	Şilea; Fărău	1761 - 1774, exterior , 19th c.

36.	Wooden belfry	Şilea; Fărău	1761 - 1774
37.	Wooden belfry	Şilea; Fărău	1664
38.	Sf. Arhangheli Wooden church ensemble	Şpălnaca; Hopârta	18th century
39.	Sf. Arhangheli Wooden church	Şpălnaca; Hopârta	18th century, modified 19th c.
40.	Wooden belfry	Şpălnaca; Hopârta	18th century
41.	Sf. Gheorghe Wooden Church ensemble	Şpălnaca; Hopârta	18th – 19th century
42.	Sf. Gheorghe Wooden church	Şpălnaca; Hopârta	18th century, rebuilt 1865
43.	Sf. Gheorghe Church ensemble Wooden	Tău; Roşia de Secaş	18th - 19 th century
44.	Sf. Gheorghe Wooden church	Tău; Roşia de Secaş	18th century, exterior 1820
45.	Wooden belfry	Tău; Roşia de Secaş	18th century
46.	Wooden gate Reformed church	Tiur; Blaj	19th century
47.	Sf. Arhangheli Wooden church ensemble	Turdaş; Hopârta	18th - 19th century
48.	Sf. Arhangheli Wooden church	Turdaş; Hopârta	1770, additions 1826
49.	Wooden belfry	Turdaş; Hopârta	18th century
50.	Sf. Treime şi Sf. Ilie Wooden church	Valea Largă; Sălciua	1782
51.	Sf. Nicolae a monastery Lupşa Wooden church	Valea Lupşii; Lupşa	1429, modified 1694, 1865

As regards the building technique of the wooden churches, it perfectly falls within the scope of the traditional technique of the folk architecture (Baias, 2012; Baias, 2013). The wooden churches truly attract the lookers-on, due to the litheness of the vertical display of the towers. For the rural community, but also for the city community, the church has represented and still represents the spiritual centre of the collectivity. In Alba County, Velley Arieşului (Figure 2) and Velley Mureşului (Figure 3) are the most representative in terms of religious architectural monuments. Many wooden churches are located here (table 2), a fact which ensures the specificity of the area and represents a link of the touristic potential. Even though brick churches are being erected, the wooden churches are preserved as well, so that in many localities, a brick church has been built along with the old wooden church (Arieşeni, Gârda de Sus, etc.).

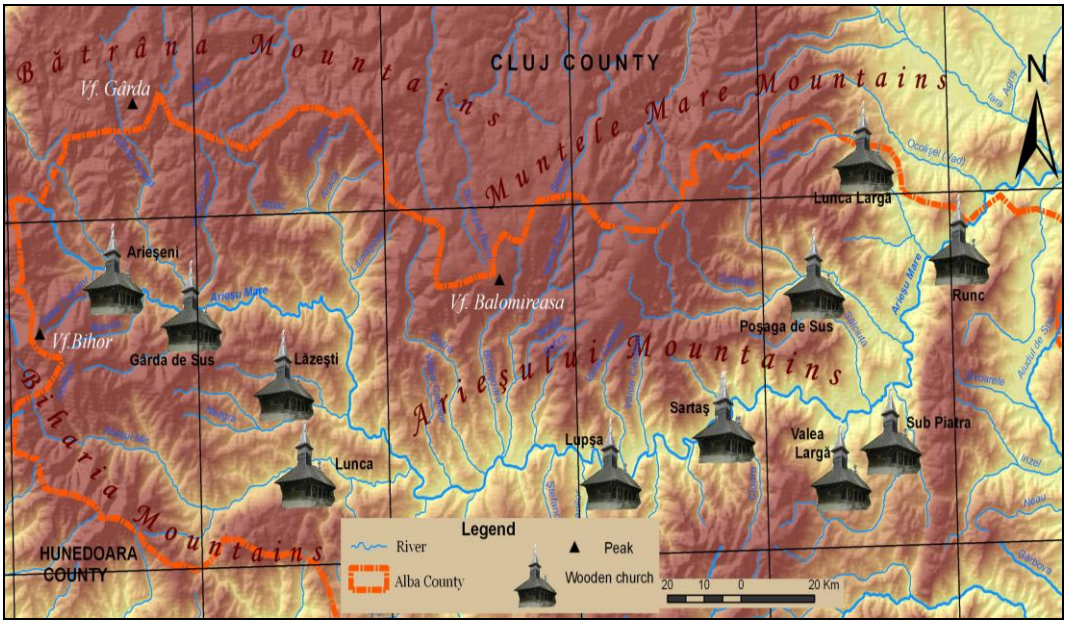

Figure 2. The wooden churches location
on Velley Arieşului, Alba County

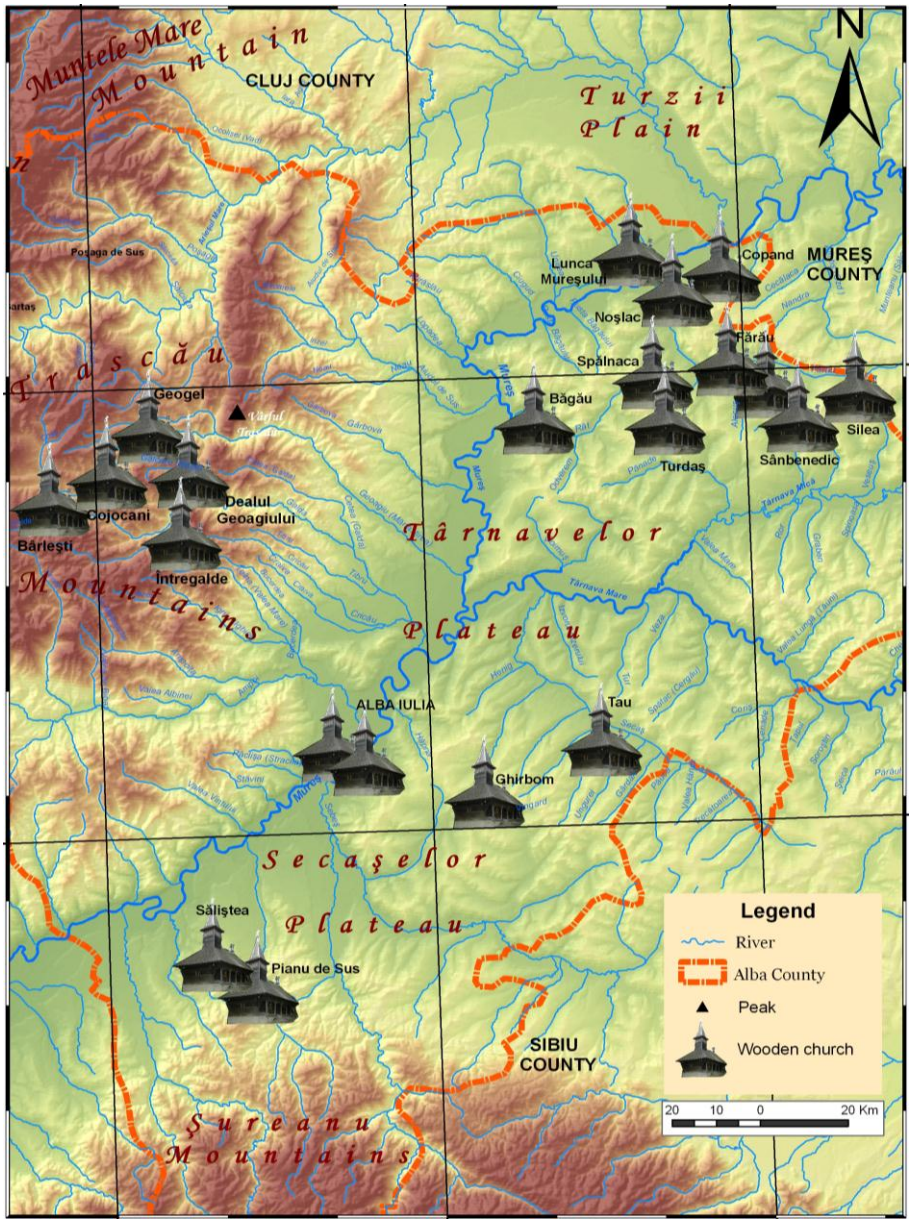

Figure 3. The wooden churches from Velley Mureşului

The old churches used to be built in the centre of the village, usually on a higher land and around them grew the cemetery of the village. If a part of these churches are located at the end of the locality, this is due either to the fact that the church was moved when the new brick church was built, or to the fact that in the structure of the original villages occurred certain transformations imposed by the authorities of by other necessities. In some situations, the community would build a new church in the new living centre and the old one would be left at the end of the village or in the middle of the

cemetery, serving sometimes as a chapel or becoming a tourist attraction for the visitors; it would rarely be used for officiating the religious services. The tallest wooden church ranked as historic monument (22 m) is situated in the drainage basin of Arieș, in Arieșeni, while the smallest church (5 m), is situated in the drainage basin of Mureș, in the village Șilea, the commune of Fărău (Baias et al., 2015). The most representative element of folk architecture in the commune of Arieşeni is the wooden church located in the centre of the commune, as well as the households with the wooden houses specific to Ţara Moţilor and spread in all the villages of the commune. The wooden church located in the centre of the commune of Arieşeni is a monument of folk architecture dating from the 18th century. Situated in a dominant position, it owns an important collection of icons painted on wood and glass support. It was built in 1791 and is dedicated to the Ascension of Christ. The church was painted in 1829 by the artist Michael the Painter of Abrud. The wooden church of Șilea was built in the second half of the 17th century and in 1995 it was moved to Fărău Monastery, situated between the village Șilea and the commune centre, Fărău.

The monasteries and their role in the development of religious tourism

The monasteries are architectural ensembles with religious and accommodation functions, but also having many attractive valences originating from the old age of the edifices, the building styles, the fame of the omnipresent churches, the fortified precincts, the cultural function, etc. The monasteries have their own organisation and complex functions; they include the church, that in some cases was founded by a voivode, as well as living quarters (cells for the monks and nuns, depending on the type of monastery), painting workshops (Albac and Patrangeni-Negroiu Monasteries), sculpture and tailoring workshops (Albac Monastery), carpentry and icon production workshops, editorial activity (Saint John the Baptist Monastery of Alba Iulia), theological seminaries and land properties (gardens, hayfields). The monastic life has been accompanied by a constant cultural preoccupation that expressed itself in the drawing up and printing of works included in the cultural heritage of our people. Also, schools have functioned along many monasteries, intended to spread the thirst for education among young people.

As specific microhabitats, whose main mission is the unhindered communication with the divinity, the monasteries have usually been placed in remote areas, often picturesque, at the foot of rocky steep slopes or near the valley springs, in areas that were easier to defend of that could provide shelter in times of trouble. Therefore, monasteries are to be found at the trenchant contact of the landforms, where the plains meet the hills or where the hills meet the mountains. The monastic settlements represent for a certain category of tourists a true oasis of peace and meditation, thanks to the simple presence of nature, looked after with passion by the dwellers of the monasteries (Cocean, 2010; Ciangă, 2007). The people who visit the monasteries can be separated into two main categories: tourists and believers. The difference between them is that the tourist admires the painting, the architecture, the location of the monastic settlement, etc., while the believer is aware that he is in a sacred place and the character of his experiences and feelings is totally different. The literature refers to all as pilgrims. The monastic settlements witness the largest influx of pilgrims on the days dedicated to the patron-saints of the churches; this type of tourism is the religious one. The celebration of the patron-saint generates a large-scale cultural event.

The degree of accessibility has been joined to the table, because the analysis of the resources from the perspective of tourism requires such an indicator (Ielenicz, 2006). This indicator is tightly related to the factor of distance (the distance to the national road, for example. For the criteria used to assess the touristic potential, three levels were

proposed regarding the degree of accessibility: high (value 5), average (value 3) and low (value 1). The numeric values are necessary for the quantitative analysis of the potential. The degree to which the attractions are known is valorised from 1 to 5, from low to very good; this is a relative indicator, but it is useful for assessing the tourist resources at a local level (Table 3). This indicator has been applied using again the method proposed by prof. Ielenicz. In order to know better the possibilities to practice the religious and pilgrimage tourism, we considered that it was important to gather information concerning the accommodation offer. Some monasteries in Alba County do not have accommodation facilities for tourists, only 10-20 beds for the staunch pilgrims, as well as for the priests, bishops, etc. We have identified this issues following the on-the-ground investigations. From a touristic perspective, the importance of these attractions becomes greater and greater also because of the degree of poverty and struggle of the Romanian people. The pilgrims, whether they believe or not, practice to a great extent the religious and pilgrimage tourism, as the liturgical atmosphere within the monasteries is much deeper than the one in the space they come from.

Table 3. The monasteries of Alba County
(Data source: Ministry of Culture and Cults)

Nr. crt.	Name	Locality	Age	Grade of accessibility	Grade of knowledge	Space accommodation
1.	Afteia Monastery	Margineni-Strungari, Salistea	century 17	Low	Relative	Yes
2.	Archdiocesan Cathedral	Alba Iulia	1921	High	Very good	Not
3.	Cergaul Mic Monastery	Cergaul Mic	2001	Low	Relative	Not
4.	Patrangeni-Negroiu Monastery	Patrangeni, Zlatna	1993	Average	Relative	Yes
5.	Dumbrava Monastery	Dumbrava, Unirea	1996	High	Good	Yes
6.	Lupsa Monastery	Lupsa	1990	High	Good	Not
7.	Farau Monastery	Farau	1995	Low	Relative	Not
8.	Sfantul Ioan Botezatorul Monastery	Alba Iulia	1990	High	Good	Not
9.	Roman Catholic monastery	Vinţu de Jos	1726	High	Very good	Not
10.	Magina Monastery	Magina, Aiud	1611	Low	Relative	Not
11.	Oasa Monastery	Tau-Bistra, Sugag	1990	High	Good	Yes
12.	Sf. Bartolomeu Monastery	Sebeş	14	High	Very good	Not
13.	Magura Monastery	Jina	1989	Low	Relative	Yes
14.	Cheile Cibului Monastery	Almaşu Mare	2001	Average	Relative	Not
15.	Poiana Sohodol Monastery	Poiana Sohodol	1998	Average	Relative	Yes
16.	Ponor Monastery	Ponor	2007	Low	Relative	Not
17.	Sfanta Treime Monastery	Albac, Ruseşti	2015	Low	Low	Not
18.	Albac-Rogoz Monastery	Albac	1999	High	Good	Yes
19.	Sfantul Ioan Botezatorul Monastery	Rimete	2000	Low	Relative	Not
20.	Strungari Monastery	Strungari	1997	Low	Relative	Not
21.	Tet Monastery	Şugag	1990	Average	Relative	Yes
22.	Sub Piatra Monastery	Sub Piatra, Salciua	18	Low	Relative	Not
23.	Tauni Monastery	Tauni, Valea Lunga	1996	Low	Relative	Not
24.	Monastery minorities	Aiud	18	High	Very good	Not
25.	Monastery Bazilians	Blaj	1741	High	Very good	Not
26.	Râmeţ Monastery	Valea Mănăstirii	14	High	Very good	Yes
27.	Roman Catholic monastery	Teiuş	15	High	Very good	Not
28.	The former Franciscan monastery	Colţeşti	18	High	Very good	Not

CONCLUSIONS

The originality of the Romanian people consists in the creativity potential that takes shape in the material and spiritual culture. In this regard, the monasteries, the stone and wooden churches have a prominent place in this culture.

The problem of developing tourism by spotlighting these elements of particular value remains an open issue. Within the analysed area, some patrimonial elements are valorised by tourist signs, by various promotional methods, but others are not even easy to identify on the ground or are too little known. The wooden churches of Alba County represent the main visible elements of the material anthropic heritage, that could be valorised by means of cultural, educational and even scientific tourism. The priority actions should aim to help people understand the risk of losing this cultural legacy, as well as to promote public awareness about the fact that these "pearls" must be preserved, because they reflect the past, the present and the future of the Romanian people in these lands. The historical and cultural importance represent the touch of originality for these elements that are unique in the east of Europe.

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