TOURISM IN PROTECTED NATURAL AREAS. CASE STUDY: IRON GATES NATURE PARK

Abstract: The elaboration of this article resulted from the fact that there are numerous fundamental values of human existence and specific elements of tourist attractiveness within the geographic and touristic area of the Iron Gates Nature Park (Decembriel's Face, the Big and Small Cauldrons of the Danube; monastic settlements: Baziaș Monastery, Mraconia Monastery, Vodița Monastery, Saint Anne Monastery; caves: Ponicova Cave, Veterani Cave, etc.) which, in the context of an efficient management, could create an added value in terms of staff income from tourism activities carried out on the park territory, tourism promotion of the Iron Gates Nature Park at local, regional, national and international level, thus contributing to the development of urban and rural localities in this geographical area. Nowadays we are facing this crisis caused by the SARS COV2 virus (COVID-19), which has directly and indirectly affected everything regarding tourism, has adverse consequences economically, psychologically and physically on companies/businesses but also on entrepreneurs who are at the beginning of their careers, in terms of opening a business (restaurant, tourist B&Bs, agritourism guesthouse).

Key words: protected natural areas, tourism, types of tourism, nature park, tourist infrastructure.

Language: English

Citation: Drăguleasa, I.-A. (2022). Tourism in protected natural areas. Case study: Iron Gates Nature Park. ISJ Theoretical & Applied Science, 01 (105), 153-171.

DOI: https://dx.doi.org/10.15863/TAS.2022.01.105.6

Scopus ASCC: 3305.

Introduction

The International Union for Conservation of Nature defines a protected area as "a terrestrial and/or marine area specially dedicated to the protection and conservation of biological diversity, with natural and cultural resources, managed through legal or other effective means", according to the 2003 IUCN report - Financing Protected Areas.

According to the Explanatory Dictionary of Terms Used in Tourism, a nature park is defined as "a territory of special beauty that generates a series of tourist attractions, namely original natural forms, ethnography and folklore, which serve for recreational purposes of the population, without damaging the natural balance." (Stânciulescu et al., 1998).

A more complex definition is adopted by the European Environment Information and Observation Network (EIONET), a network set up between the European Environment Agency and the EU member states, the states that join the EU. A protected natural area is therefore represented by "parts of a territory protected by legislation and special restrictions in order to conserve the environment. These include large areas of land designated for the protection of wildlife and its habitat; areas of significant natural beauty or unique interest; areas containing rare forms of plant and animal species; areas representing exceptional and rare geological formations; places of historical and prehistoric interest; areas containing ecosystems of special importance for scientific study and research, and areas in need of biosphere protection" (Dodero, 1983).

Some Romanian authors propose in the environmental protection lexicon that a protected area should be defined as "a geographically delimited area, with rare or high percentage of rare..."
natural elements, designated or regulated and managed to achieve specific conservation objectives; it includes national parks, nature reserves, biosphere reserves, natural monuments and others” (Bran et al., 1999, p. 77).

In line with most views in the theory and practice of this field, a protected natural area can be considered to be "an area designated by specific legislation and appropriately managed, with the purpose of protecting and conserving representative elements of flora, fauna and their habitat, outstanding physical, geographical and ecological features, with significant opportunities for scientific, educational and recreational activities, having a sufficiently large and well-defined area to ensure the integrity of its characteristics". (Smaranda, 2008, p. 26).

In Romania, according to Law no. 49/2011 for the approval of Government Emergency Ordinance no. 57/2007 on the regime of protected natural areas, conservation of natural habitats, wild flora and fauna, the protected areas are "terrestrial and/or aquatic areas in which there are species of wild plants and animals, biogeographical, landscape, geological, paleontological, speleological or other elements and formations of particular ecological, scientific or cultural value, which have a special protection and conservation regime, established according to legal provisions".

**Introduction**

Specific objectives, in relation to the research topic "Tourism in protected natural areas. Case study: Iron Gates Nature Park":

- Physical and geographical location of the park;
- Characterisation of the natural setting (relief, climate, hydrography);
- Analysis of the typology of protected natural areas worldwide;
- Analysis of the types of tourism practised in the natural park;
- Analysis of the tourism infrastructure (tourist accommodation structures, tourist accommodation capacity, number of arrivals of Romanian and foreign tourists, overnight stays of tourists).

The reasoning for establishing the park was made by the I.C. BIOL. study (1992), which classified the area as a "Biosphere Reserve" for an area of about 115,000 ha, close to that proposed in subsequent studies (110,000 ha - Oarcea, 1999).

Law no. 5/2000 included this protected area in the general category "national parks, nature parks, biosphere reserves", with an area of 115,665.80 ha, and GD No. 230/2003 classified the territory as a national park with the same area.

Tourism mainly refers to the movement of individuals away from their permanent residence, usually to places located at great distances, in areas with a splendid natural setting (relief, landscapes, fauna, etc.), with particular aesthetic value and/or being interesting from a cultural and historical point of view. These destinations include protected natural areas, which are characterised by a diversified natural environment that is attractive for the curious tourists and of great biological, scientific, historical and cultural interest.

The protected natural areas acquire a real value in the tourism sector only under the conditions of their organization for visiting and practicing activities specific to each natural area; tourism is a pillar that contributes to the creation of a competitive tourist demand and offer at local, regional and national level.

The organization of the protected natural area leads to increased attractiveness of the tourism area compared to other areas, to the individualization of the nature park, differentiating itself from other parks by: attractive tourist trails, appropriate marking of the routes, flora and fauna, geographical location of the park.

The development and adequate tourism facilities of the nature park ultimately contribute to attracting a very large number of visitors, high income for locals, practice and sustainable development of various types of tourism, preservation and conservation of the protected natural area and tourist attractions.

It can also be stated that in terms of sustainable tourism in protected areas and correspondingly their visitation must, in essence, be carried out in such a way that "any use of a resource is made under the conditions of a superior valorisation, without destroying the resource or its possibilities of regeneration, what is being valued must be exploited at the highest possible level, thus achieving maximum cultural, educational, social and economic efficiency" (Constantinescu, 1976). This must be taken into account, since if there is no interdependence between (natural and man-made) tourism resources and the level of use of the types of tourism, the protected nature park/reserve will be degraded and tourism resources will become unavailable and depletable for future generations of visitors.

Iron Gates Nature Park is located in the southwestern extremity of the Southern Carpathians, along the Danube River, between Baziaș and Schela Cladovei; on the territory of Mehedinți and Caraș-Severin counties (Fig. 1).
The relief, an indispensable structure of the natural landscape, takes on different configurations, depending on the variety of geomorphological, geological and mineralogical constitution, which, over the years, has sculpted unparalleled landscapes that intensify the remarkable picturesque character of the region; throughout the area, the relief presents a series of steps that descend gently from north to south. The highest level is formed by the south-eastern extensions of the Godeanu Mountains, which rise boldly to 2000 meters above sea level. The considerable extension of the relief in altitude entails a considerable diversification of the physical and geographical elements (climate, hydrography, soil factors, vegetation, flora), which vary according to exposure and altitude (adapted from Albulețu, 1982).

The Iron Gates tourism area, due to its geographical position, the levelling and fragmentation of the relief, together with the presence of the wide Danube corridor, has a temperate continental climate with local nuances. With the exception of the northern sector of the area, i.e., the high sector of the Godeanu Mountains and the Cerna Mountains, throughout the year, but especially in winter, there are invasions of humid and warm air masses of Mediterranean and oceanic origin. This causes the air temperature values in most of the area to be higher than in the rest of the country, frosts occur less frequently and with less intensity (Albulețu, 1982).

Water resources are represented by underground water (groundwater and deep water) and surface water (rivers and lakes). They are a component of the geographical landscape, with important implications for tourism both through the sometimes spectacular changes in the natural landscape (lakes, waterfalls, etc.) and through the possibility of developing resorts of national importance (Herculane Baths – Bâile Herculane). The water network is entirely tributary to the Danube, which borders the area in its southern part. The Danube waters the territory of the area over a length of 150 km, between Baziaș and Ostrovul Șimian, developing on this stretch one of its most attractive sectors, that of the gorge, over a distance of 130 km. (Albulețu, 1982).

The hydrographic network tributary to the Danube in the Gorge area (Fig. 2), is represented by a series of permanent or intermittent rivers (Oravița, Berzasca, Mraconia, Eșelnița, Topolnița, Bahna, etc.). The karst lakes Ponoarele and Zătonul (Fig. 3), or as they are more commonly called Zătonul Mare and Zătonul Mic, appear as small depressions upstream (Ponoarele) and downstream (Zătonul) of the Ponoarele Natural Bridge (Fig. 4), each drained by a stream (Gheorghiești and Valea Mare) which flows underground through a depression. The Iron Gates reservoir was formed following the construction of the Gura Vale-Șip dam as part of the Iron Gates I hydropower and navigation system (Fig. 5).
5). The lake has an area of 32,000 ha, a length of 140 km and a water volume of 2,550 million cubic meters ( Albuleșu, 1982).

| Impact Factor | ISRA (India) | ISI (Dubai, UAE) | GIF (Australia) | JIF | SIS (USA) | PII (Russia) | JIF | ESII (KZ) | IBI (India) | GIF (Australia) | SIS (USA) | PII (Russia) | JIF | ESII (KZ) | IBI (India) | GIF (Australia) | SIS (USA) | PII (Russia) | JIF | ESII (KZ) | IBI (India) |
|---------------|-------------|------------------|----------------|-----|-----------|-------------|-----|-----------|-----------|----------------|-----------|-------------|-----|-----------|-----------|----------------|-----------|-------------|-----|-----------|-----------|
|               | 6.317       | 1.582            | 0.564          | 1.500 | 0.912     | 3.939       | 7.184 | 1.500     | 4.260     | 0.564          | 1.500     | 0.912       | 3.939 | 7.184     | 1.500     | 0.912       | 3.939     | 7.184       | 1.500 |
|               | 6.317       | 1.582            | 0.564          | 1.500 | 0.912     | 3.939       | 7.184 | 1.500     | 4.260     | 0.564          | 1.500     | 0.912       | 3.939 | 7.184     | 1.500     | 0.912       | 3.939     | 7.184       | 1.500 |

On the surface of the park there is a varied and attractive vegetation described by the opulence and brilliance of the species (the Cazane tulip, the Dyer’s greenweed, the yellow iris, the Dalmatia gladiolus, the Turkish cherry tree, the fig tree, the ivy, the wild walnut tree, the lilac, etc.). The Mehedinti plateau and the mountain area is covered with beech, sycamore maple, birch trees forests and beech forests mixed with sessile oak and spruce trees. A characteristic of the Iron Gates Nature Park is represented by the forests with thermophilic (heat-loving) elements such as flowering ash, Banat pine and Turkish hazel (adapted from Albuleșu, 1982).

Data and Methods

The working methodology is adapted to the specific objectives and therefore different working methods are used for each specific objective.

The research methodology used for the paper "Tourism in protected natural areas. Case study: Iron Gates Nature Park" took into account both traditional methods (observation of the phenomena, synthesis, analysis, description, field photography of tourist objectives, bibliographic documentation, identifying the main works written in accordance with the studied topic) and modern methods (cartographic and graphical method, statistical data provided by the National Institute of Statistics, interpretation of diagrams made in excel).

The detailed work was based on graphical and cartographic representations, with diagrams and maps as the main tools for both the initial analysis of the park and the interpretation of the results of the analysis.

Results and Discussions

1.1. Typology of protected natural areas

In January 1994, the Resolution 19.4 of the 19th Session of the IUCN (International Union for Conservation of Nature) General Assembly was...
Impact Factor:

| Journal            | Impact Factor |
|--------------------|---------------|
| ISRA (India)       | 6.317         |
| ISI (Dubai, UAE)   | 1.582         |
| GIF (Australia)    | 0.564         |
| JIF                | 1.500         |
| SIS (USA)          | 0.912         |
| PIIHI (Russia)     | 3.939         |
| ESJI (KZ)          | 9.035         |
| SJIF (Morocco)     | 7.184         |
| ICV (Poland)       | 6.630         |
| PIF (India)        | 1.940         |
| IB (India)         | 4.260         |
| OAJI (USA)         | 0.350         |

adopted in Buenos Aires, whereby the classification adopted in 1978 was improved and brought more into line with the experience of the various countries and the new conservation requirements. The following six categories of protected areas were established, a structure which is still in use today, as presented in the Guidelines for Protected Area Management Categories, issued by the IUCN in 1994.

Category I: Strict nature reserve/wilderness area: protected area managed for science or wilderness protection. This category has two subgroups, namely:

Category Ia: Strict Nature Reserve: protected area managed primarily for science. Equivalent to the category in the system established in 1978: scientific reserve/strict nature reserve.

Category Ib: Wilderness area: protected area managed primarily for the protection of wilderness. This is an extensive unmodified or slightly modified area of land and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed to conserve natural conditions.

Category II: National Park: protected area managed primarily for ecosystem protection and recreation. It represents an area of a territory and/or marine area having the function to:
- protect the ecological integrity of one or more ecosystems for present and future generations;
- exclude hostile exploitation or occupation for the purpose of area designation;
- provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be culturally and environmentally compatible.

Category III: Natural Monument: protected area managed primarily for the conservation of specific natural features. The natural monument is an area containing one or more natural/cultural features which is of special or unique value because its rarity is essential, having representative or aesthetic qualities or cultural importance.

Category IV: Habitat/Species Management Area: protected area managed primarily for conservation through management interventions. This category designates a terrestrial and/or marine area that is subject to active intervention for management purposes in order to maintain habitats and/or to understand species-specific needs.

Category V: Protected landscape/seascape: protected area managed primarily for the conservation of the landscape/seascape and recreation. This category recognises an area within a territory, with coastline (shoreline) and sea as suitable where the interaction between people and nature over time has produced an area with distinctive features of important aesthetic, ecological and/or cultural values and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital for the protection, maintenance and evolution of such an area.

Category VI: Protected area with sustainable use of natural resources: protected area managed primarily for the appropriate use of natural ecosystems. This category designates an area containing predominantly undisturbed natural systems managed for the long-term protection and maintenance of biological diversity while providing a sustainable flow of natural products and services for community needs.

It can thus be concluded that, over the years, from its creation to the present day, IUCN has succeeded in imposing certain principles in the organisation of protected natural areas, which are accepted throughout the world and which help to develop national systems of protected areas.

In terms of protected areas (Fig. 6), it can be seen that the largest number of protected areas worldwide are in category IV. (Habitat/species management area, counting 37,737 areas) and at the opposite end, with the lowest number, is category Ib. Wilderness (4,867 areas).
Impact Factor:

- ISRA (India) = 6.317
- ISI (Dubai, UAE) = 1.582
- GIF (Australia) = 0.564
- JIF = 1.500
- GIF (Australia) = 0.564
- ESJI (KZ) = 9.035
- SIS (USA) = 0.912
- SIF (Poland) = 1.500
- PII (Russia) = 3.939
- SJIF (Morocco) = 7.184
- ICV (Poland) = 6.630
- PIF (India) = 1.940
- IB (India) = 4.260
- OAJI (USA) = 0.350

Fig. 6 Number of protected areas worldwide by IUCN category

Source: author processing based on the World Data Base on Protected Areas, quoted by Băltărețu, 2011

If we consider the surface area of protected areas (Fig. 7), it is worth noting that the highest percentage is occupied by category IV. Habitat/species management area (26%), closely followed by category VI. Protected area with sustainable use of natural resources (18.63), at the opposite pole is category III. Natural Monument (2%) with the lowest percentage recorded.
**Impact Factor:**

| Journal          | ISRA (India) | SIS (USA) | ICY (Poland) | PIIH (Russia) | ESJI (KZ) | IBI (India) | PIF (India) | OAJI (USA) |
|------------------|--------------|-----------|--------------|---------------|-----------|-------------|-------------|------------|
|                   | 6.317        | 0.912     | 6.630        | 3.939         | 9.035     | 4.260       | 1.940       | 0.350      |

Area of protected areas worldwide

Fig. 7 Area of protected areas worldwide by IUCN category

Source: author processing after the World Data Base on Protected Areas, quoted by Băltărețu, 2011

The functional structure of protected natural areas in Romania (Fig. 8), in terms of area occupied is distributed as follows:

1. Nature parks - 42%;
2. Danube Delta Biosphere Reserve - 32%;
3. National parks - 17%;
4. Reserves and monuments - 9%.

Functional structure of protected natural areas in Romania

Source: author data processing from https://wwfeu.awsassets.panda.org/downloads/anexa1_descr_ariiprot_rnp.pdf

Fig. 8 Percentage distribution of the area occupied by the main protected natural areas in Romania

1.2. Analysis of the "Iron Gates Nature Park" tourism area

The "Iron Gates" tourism area comprises the territory located on both banks of the Danube, between Bâdiaș and Drobeta-Turnu Severin, with...
Impact Factor:

|                | ISRA (India) | SIS (USA) | ICV (Poland) | PIF (India) | JIF (Dubai, UAE) | ICV (Poland) |
|----------------|-------------|-----------|--------------|-------------|------------------|--------------|
|                | 6.317       | 0.912     | 6.630        | 1.940       | 1.582            | 1.940        |

varying depths in Romanian and Serbian territory. The Romanian part of the "Iron Gates" tourism area, which is the object of study of the Iron Gates Nature Park, is delimited by the Danube and the line Șimian - Malovâț - Florești - Apa Neagră - Izvoarele Cernei - Mehadia - the southern slopes of the Almăjului Mountains and the Locvei Mountains - Baziaș. Taking into account the fact that the delimitation of the tourist area has a dynamic character over time, which can be modified by the possible appearance or disappearance of tourist attractions or economic objectives likely to influence tourism, such as the "Iron Gates II" hydroelectric system, which can introduce into the landscape an element that can also constitute a tourism objective, the limits of the tourist area can be revised and updated (Albulețu, 1982).

Types of tourism that can be experienced in the Iron Gates Nature Park (Fig. 9):

- Adventure tourism
- Ecotourism
- Speleological tourism
- Leisure and recreational tourism
- Green tourism
- Cultural tourism
- Water sports tourism
- Tranzit tourism

Fig. 9 Types of tourism experienced in the Iron Gates Nature Park

Source: adapted from Drăguleasa, 2021

The diversity of relief landforms and ecological environmental factors encourages the presence within the park of numerous types of fauna, described by the presence of animals unevenly distributed on vegetation levels, specific to the adaptive environment, most of which are of hunting interest, alongside which elements of sub-Mediterranean and implicitly Balkan origin cohabit (Drăguleasa, 2021).

Rural tourism is a form of tourism focused on destinations in rural areas with a functional accommodation facility and other heterogeneous services. Rural tourism takes different forms of stay with a varied range of motivations: hiking, winter sports, traditions and customs (Mazilu & Drăguleasa, 2021).

Ecotourism is seen as a new form of tourism that should contribute to both nature conservation and local community development, as a form of alternative tourism, ecotourism emerged, like the others, as a consequence of widespread dissatisfaction with conventional forms of tourism (Mazilu & Drăguleasa, 2021).
Ecotourism activity, in addition to being anchored in the area of sustainability, works alongside the economic integration and generates development strategies necessary to support the transition. The real meaning of ecotourism includes the modernization of infrastructure, the forms and types of tourism that are practised, the degree and possibility of tourist development, the analysis of tourist facilities (accommodation, food, leisure, etc.), sustainable rural-urban tourism development (Mazilu & Drăguleasa, 2021).

In the last 20 years a specific category of nature tourism has emerged and developed, namely "ecotourism"; it is, according to the IUCN Ecotourism Programme, "environmentally appropriate travel and visitation to relatively undisturbed natural areas in order to enjoy and appreciate nature (and any other characteristic cultural elements - both past and present), that promotes conservation, have a low impact and provide the active socio-economic involvement of local people" (Ceballos-Lacurain, 1996).

In 1991, the International Ecotourism Association (TIES) established a similar definition: "ecotourism is appropriate travel to natural areas that conserves the environment and sustains the prosperity of the local people" (www.ecotourism.org).

Taking up some notions related to the valorisation of unaltered natural resources, other authors consider that "any trip to isolated natural areas with the aim of enriching the understanding and appreciation of the ecological and cultural heritage, without damaging them, falls under the term ecotourism" (Matei, 2006).

The fruition of the natural environment and the representative attractions of a geographic territory is one of the essential needs of ecotourism. From this point of view, it combines with other forms of travel based on nature and the environment, integrating into green (ecological) tourism (Drăguleasa, 2021).

Table 1. Ecotourism destinations in Romania

| No. | Name of the ecotourism destination                  |
|-----|---------------------------------------------------|
| 1.  | Pădurea Craiului (Pădurea Craiului Mountains)    |
| 2.  | Colinele Transilvaniei (Transylvanian Highlands)  |
| 3.  | The Danube Delta                                  |
| 4.  | Țara Hațegului – Retezat                          |
| 5.  | Eco Maramureș                                     |
| 6.  | Țara Dornelor                                     |
| 7.  | Mărginimea Sibiului                               |
| 8.  | Ținutul ZimbruI (Land of Bisons)                   |
| 9.  | Băile Tușnad and the surrounding areas            |
| 10. | Zănești – Piatra Craiului                         |

Source: data processing from https://www.eco-romania.ro/eco-destinatii/
Fig. 10 Elements of an attractive ecotourism destination

Source: Drăguleasa, 2021

The wonders of the natural landscape, together with the scientific value of certain species of vegetation in the area of origin, led to the establishment of several protected areas (Table 2) within the Iron Gates Nature Park (Drăguleasa, 2021).

Table 2. Protected areas within the Iron Gates Nature Park

| No. | Reserve name                                                                 | Surface area (ha) |
|-----|------------------------------------------------------------------------------|-------------------|
| 1.  | Balta Nera-Dunăre                                                           | 10                |
| 2.  | Baziaș                                                                     | 170.9             |
| 3.  | Calinovăț Island                                                           | 24                |
| 4.  | Râpa cu lăstuni                                                             | 5                 |
| 5.  | Divici – Pojejena                                                           | 498               |
| 6.  | Valea Mare                                                                  | 1179              |
| 7.  | Water Cave in Valea Polevii                                                 | 3.2               |
| 8.  | Moldova Veche Island                                                        | 1627              |
| 9.  | The fossil site Svința                                                      | 95                |
| 10. | Big Caldrons and Small Caldrons (Cazanele Mari and Cazanele Mici)           | 215               |
| 11. | The fossil site Bahna                                                       | 10                |
| 12. | Duhovna Hill                                                                | 50                |
| 13. | Gura Vâii – Vârciorova                                                     | 305               |
| 14. | Fața Virului                                                               | 6                 |
| 15. | Cracul Crucii                                                               | 2                 |
| 16. | Vârânie Hill                                                                | 350               |
| 17. | Oiogănicului Valley                                                        | 150               |
| 18. | Cracul Găioara                                                              | 5                 |

Source: data processed by authors from https://www.pnportiledefier.ro/
1.3. The tourism infrastructure of the Iron Gates Nature Park

The accommodation base is the main key element in the development of tourism activities, given their fundamental appropriateness, i.e. the social and economic efficiency. Through the tourists accommodation, the social component (the need for relaxation, recreation and relaxation, etc.) is complemented by an economic component (income from services provided to tourists), which helps to shape the tourism phenomenon and the sustainable development of tourism.

Fig. 11 Tourist accommodation structures in Mehedinti and Caraş-Severin counties, components of the Iron Gates Nature Park
Tourism flows are a form of spatial interaction between two areas, where the destination area has a surplus of amenities (e.g. tourists attractions) and the generating area has a deficit (or has other amenities). Tourism flows follow certain rules and are influenced by pull and push factors (Dinu, 2005).

Burkart and Medlik (1981) identified three main reasons why statistical measurements of tourism flow are important for understanding the tourism activity:

a. to assess the size of tourism flows and monitor any changes; this allows a forecast of flows and a deciphering of market trends;

b. to allow planning of future tourism activities;

c. to be used for both the public and the private sectors as a basis for marketing activities.

Regarding the number of tourists arrivals in tourist accommodation facilities (Fig. 13), it can be observed that tourists (Romanians and foreigners) chose the following hotel structures: hotels, agrotourism hostels, tourist hostels and bungalows.

In the analysed period 2016-2020, there was a maximum peak in 2019 for hotels in the tourism sector, where more than 42,386 tourists arrived in Mehedinți county; there was a maximum for agrotourism hostels in 2019 in Caraș-Severin county (2,141 Romanian and foreign tourists).

At the opposite end, there are the following tourist accommodation structures where the lowest number of Romanian and foreign tourists were registered during 2016-2020: tourist villas (Drobeta-Turnu Severin), tourist cottages (Dubova), agrotourism pensions (Svinița), tourist cabins (Pojejena), tourist cottages (Gărnic).

In (Fig. 14) it is obvious that the trend of Romanian and foreign tourists to stay in hotels, tourist cottages, agrotourism guesthouses and tourist pensions is maintained.

The tourists circulation most accurately portrays the value and level of exploitation of tourism potential; this index is also a geodemographic phenomenon, with a heterogeneous, large-scale structure, made up of temporary population flows, belonging to various age groups, types, genders, and social categories.

Source: data processed by authors from insse.ro

Impact Factor:

| Journal | Impact Factor |
|---------|--------------|
| ISRA (India) | 6.317 |
| ISI (Dubai, UAE) | 1.582 |
| GIF (Australia) | 0.564 |
| JIF | 1.500 |
| SIS (USA) | 0.912 |
| PIHHI (Russia) | 3.939 |
| ESJI (KZ) | 9.035 |
| IBI (India) | 4.260 |
| SJIF (Morocco) | 7.184 |
| OAJI (USA) | 0.350 |

As for the tourist accommodation facilities (Mehedinți County and Caraș-Severin County), in the Iron Gates Nature Park, during the analysed period (Fig. 11), it can be noticed that, in 2020, despite the Covid-19 pandemic, the agrotourism guesthouses and the tourist pensions registered the highest increases. The highest values are recorded in the following tourist accommodation structures with accommodation function: tourist cottages, tourist villas, motels, etc.

The accommodation capacity is the essential element of the material tourism base on which the very development of tourists activities is organically dependent. There is a continuous correlation between the size, structure and grouping of the material accommodation base with the intensity and channelling of tourists flows or with the emergence of new types of tourism, all grafted onto a complex tourism background (Ciangă, 2007).

We observe (Fig. 12) oscillations in the number of accommodation places in hotels, with the highest increase in the number of accommodation places in 2020 (799 places) - Drobeta-Turnu Severin, Mehedinți county; the agrotourism guesthouses have recorded an upward trend, 120 places being registered in 2016 - Coronini, Caraș-Severin county.

Tourism circulation is one of the three essential components (together with tourism potential and the material base) that contribute to the definition of the tourism phenomenon. The effect of tourism movement is combined: social, contributing to the possibility of organising leisure time, the prevention of certain illnesses, the restoration of biological potential or the improvement of health, the broadening of information horizons; economic accumulation, especially for regions receiving tourists flows, which make perpetual or seasonal use of their primary tourism offer, renewable through planning and adaptation (Ciangă, 2007).

Tourists circulation is about people/tourists wanting to relax, spend their leisure time, visit sights, photograph landscapes, etc.

Most tourism specialists group the factors of tourism circulation into: supply and motivation, leisure time, income, as they are found to be absolutely necessary to drive tourists away from their place of residence.
Impact Factor:

ISRA (India) = 6.317  SIS (USA) = 0.912  ICV (Poland) = 6.630
ISI (Dubai, UAE) = 1.582  PHHI (Russia) = 3.939  PIF (India) = 1.940
GIF (Australia) = 0.564  ESJI (KZ) = 9.035  IBI (India) = 4.260
JIF = 1.500  SJIF (Morocco) = 7.184  OAJI (USA) = 0.350

Existing tourist accommodation capacity by type of tourist accommodation (Mehedinți County) within the Iron Gates Nature Park

Fig. 12 Tourist accommodation capacity in Mehedinți and Caraș-Severin counties, components of the Iron Gates Nature Park

Source: data processed by authors from insse.ro
ISRA (India) = 6.317  
ISI (Dubai, UAE) = 1.582  
GIF (Australia) = 0.564  
JIF = 1.500  

ISRI (Dubai, UAE) = 1.582  
ESJI (KZ) = 9.035  
SIS (USA) = 0.912  
SJIF (Morocco) = 7.184  

GIF (Australia) = 0.564  
ESJI (KZ) = 9.035  
SIS (USA) = 0.912  
SJIF (Morocco) = 7.184  

Impact Factor:

ISRA (India) = 6.317  
ISI (Dubai, UAE) = 1.582  
GIF (Australia) = 0.564  
JIF = 1.500  

ISRI (Dubai, UAE) = 1.582  
ESJI (KZ) = 9.035  
SIS (USA) = 0.912  
SJIF (Morocco) = 7.184  

GIF (Australia) = 0.564  
ESJI (KZ) = 9.035  
SIS (USA) = 0.912  
SJIF (Morocco) = 7.184  

Tourist arrivals in tourist accommodation (Mehedinți County) within the Iron Gates Nature Park

Tourist arrivals in tourist accommodation facilities (Carăș-Severin County) within the Iron Gates Nature Park

Fig. 13 Tourist arrivals (Romanian and foreign) in Mehedinți and Carăș-Severin counties, components of the Iron Gates Nature Park

Source: data processed by authors from insse.ro
Impact Factor:

ISRA (India) = 6.317  SIS (USA) = 0.912  ICV (Poland) = 6.630
ISI (Dubai, UAE) = 1.582  PII (Russia) = 3.939  PIF (India) = 1.940
GIF (Australia) = 0.564  ESJI (KZ) = 9.035  IBI (India) = 4.260
JIF = 1.500  SJIF (Morocco) = 7.184  OAJI (USA) = 0.350

Fig. 14 Overnight stays of tourists (Romanian and foreign) in Mehedinți and Caraș-Severin counties, components of the Iron Gates Nature Park
Source: data processed by authors from insse.ro

Philadelphia, USA
Availability of tourism infrastructure and superstructure: there are 'supporting' elements for the development of sustainable tourism:

- **Tourist Visitor Centre** which is located in the town of Orșova;
- **Tourist Information and Documentation Centre** in Drobeta-Turnu Severin (within the Iron Gates Region Museum);
- **Tourist Information and Documentation Centre** in Berzasca (hosted by the Cultural House of the commune);
- **Tourist Information and Documentation Centre** in Moldova Nouă (housed in a building of the Moldova Nouă Forestry Park).

Accessibility - there are various ways to reach the park

(https://www.directbooking.ro/obiectiv-parcul-natural-portile-de-fier-clisura-dunarii157.aspx):

- air access (from Timisoara and Craiova airports);
- road access (on the E70 road between Drobeta-Turnu Severin and Orșova and continuing on the DN 57 between Orșova and Băzăș);
- river access (via the ports of Orșova and Moldova Nouă and other moorings such as Drencova, Svinuța and Tisovita);
- rail access (to the CFR train stations in Drobeta-Turnu Severin and Orșova).

Tourist activities that can be experienced in the Iron Gates Nature Park:

- ecotourism trails in the village of Eibenthal (mountain tourism);
- photographing fauna, flora and spectacular landscapes (scientific tourism);
- doing speology in the Danube Caldzrons;
- fishing on the Danube (catfish, carp, trout) and hunting (wild boar, deer, roe deer);
- water sports on the Danube (canoeing, kayaking);
- cycling;
- practicing and learning traditional crafts;
- sightseeing (individual/group tourism);
- consultation of documentary material (brochures, tourist guides, films) about the nature park in the tourist reception and information centres for tourists/visitors;
- ecumenical/religious tourism (Vodita Monastery, Mraconia Monastery, St. Anna Monastery).

**Conclusions**

In conclusion, tourism has become a global hospitality industry, but its activities are not evenly distributed across the territory/space, between different tourism regions and geographical areas; planning can help the emergence of new tourism destinations and even the rehabilitation of protected areas that require certain technical and infrastructure facilities and the tourism development of their space.

The complexity and importance of the tourism potential and the continuous development of the tourist accommodation structures within the Iron Gates Nature Park attract year after year tourists interested in practicing various forms of tourism, from ecotourism, water sports (canoeing, waterskiing, wakeboarding), ecumenical tourism, agrotourism, etc.

Therefore, as a defining element of the tourism phenomenon, together with the natural tourism attractions and the characterization of the natural environment, the tourism traffic mobilizes important segments of the population, people of all ages, directly and indirectly reflecting the manner and stage of exploitation of the natural and man-made tourism potential of the Iron Gates Nature Park.
Impact Factor:

| Journal      | Impact Factor |
|--------------|--------------|
| ISRA (India) | 6.317        |
| ISI (Dubai, UAE) | 1.582      |
| GIF (Australia) | 0.564      |
| JIF          | 1.500        |
| SIS (USA)    | 0.912        |
| PIIPI (Russia) | 3.939      |
| ESJI (KZ)    | 9.035        |
| SJIF (Morocco) | 7.184      |
| ICV (Poland) | 6.630        |
| PIF (India)  | 1.940        |
| IBI (India)  | 4.260        |
| OAJI (USA)   | 0.350        |

Annexes

Annex 1. Map of the administrative and territorial components of the Iron Gates Nature Park

Source: data processed by authors in ArcGIS
Annex 2. Map of natural and man-made tourism objectives/attractions within the Iron Gates Nature Park

Source: data processed by authors in ArcGIS

References:

1. Albulețu, I. (1982). Zona turistică Porțile de Fier, Editura Sport-Turism, București.
2. Băltărețu, A.M. (2011). Arii protejate: Ecoturism: Dezvoltare Durabilă, Editura Pro Universitaria, București.
3. Bran, F., Ildiko, I., Marin, D., & Mockesch, C. (1999). Mic lexicon de protecția mediului, Editura Economică, București.
4. Burkart, A.J., & Medlik, S. (1981). Tourism, past, present and future, Heinemann, London.
5. Ceballos-Lacurain, H. (1996). Tourism, Ecotourism and Protected Areas, IUCN, Gland, Switzerland and Cambridge, UK.
6. Ciangă, N. (2007). România. Geografia turismului, Editura Presa Universitară Clujeană, Cluj-Napoca.
7. Constantinescu, N.N. (1976). Economia protecției mediului natural, Editura Politică, București.
8. Dinu, M. (2005). Geografia turismului, Ediția a III-a, Editura Didactică și Pedagogică, București.
9. Dodero, G. (1983). Glossario di Ecologia, Inquinamento, Igiene ambientale, Edizioni Universitarie Scientifiche, Roma.
| Impact Factor: | ISRA (India) = 6.317 | ISI (Dubai, UAE) = 1.582 | GIF (Australia) = 0.564 | JIF = 1.500 | SIS (USA) = 0.912 | ICV (Poland) = 6.630 |
|---------------|----------------------|--------------------------|------------------------|-------------|------------------|---------------------|
|                | РИНЦ (Russia) = 3.939 | PIF (India) = 1.940       | ESJI (KZ) = 9.035       | SJIF (Morocco) = 7.184 | OAJI (USA) = 0.350 |

10. Drăguleasa, I.A. (2021). Politici și Strategii pentru Dezvoltarea Turismului Durabil – Regiunea Sud-Vest Oltenia, Editura Sitech, Craiova.
11. (2003). IUCN. *Financing Protected Areas*, London: IUCN
12. (1994). IUCN. *Guidelines for Protected Area Management Categories*, London: IUCN
13. Matei, E. (2006). *Ecoturism*, Colecția „Geografie” București.
14. Mazilu, M.E., & Drăguleasa, I.A. (2021). The Development of Ecotourism South-West Oltenia Region, *International Journal of Innovation Scientific Research and Review*, Vol. 03, Issue, 09, pp.1755-1760, September, 2021., IF: 4.95. [http://journalijisr.com/sites/default/files/issues-pdf/IJISRR-656.pdf](http://journalijisr.com/sites/default/files/issues-pdf/IJISRR-656.pdf)
15. (n.d.). *National Institute of Statistics, TEMPO online*: Retrieved April 2021 from [http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table](http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table)
16. Oarcea, Z. (1999). *Ocrotirea naturii. Filozofie și împliniri. Parcuri naționale și parcuri naturale*, Editura Presa Universității Române, Timișoara.
17. Smaranda, J.S. (2008). *Managementul turismului în ariile naturale protejate*, Editura Oscarprint, Cluj-Napoca.
18. Stânciulescu, G., Lupu, N., & Țigu, G. (1998). *Dicționar poliglot explicativ de termeni utilizați în turism*, Editura ALL, București.
19. (n.d.). *World Data Base on Protected Areas.*
20. (n.d.). hărți realizate în programul ArcGIS.
21. (n.d.). Retrieved April 2019 from [http://geospatial.org/vechi/download/?pg=4](http://geospatial.org/vechi/download/?pg=4)
22. (n.d.). Retrieved March 2021 from [https://www.pnportiledefier.ro/](https://www.pnportiledefier.ro/)
23. (n.d.). Retrieved April 2021 from [https://www.directbooking.ro/obiectiv-parcul-natural-portile-de-fier-clisura-dunarii-157.aspx](https://www.directbooking.ro/obiectiv-parcul-natural-portile-de-fier-clisura-dunarii-157.aspx)
24. (n.d.). Retrieved May 2021 from [https://wwfeu.awsassets.panda.org/downloads/appendix1_descr_ariiprot_rnp.pdf](https://wwfeu.awsassets.panda.org/downloads/appendix1_descr_ariiprot_rnp.pdf)
25. (n.d.). Retrieved May 2021 from [https://www.eco-romania.ro/eco-destinatii/](https://www.eco-romania.ro/eco-destinatii/)
26. (n.d.). Retrieved June 2021from [www.ecotourism.org](http://www.ecotourism.org)