

STUDY ON THE STAGE OF DEVELOPMENT AND VALUATION OF THE TOURIST POTENTIAL IN THE DANUBE DELTA AREA, ROMANIA

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Abstract

The current stage of development and capitalization of the tourist potential in the Danube Delta area was identified based on multidisciplinary research, presented in this paper, in which three stages were completed, which aimed at the study of the natural and anthropic tourist potential, as well as the circulation and activity touristic. Regarding the natural potential, it was found that it is very rich, diversified and valuable, showing a strong character of uniqueness and authenticity, through the multitude of endemic and protected plant and animal species, many of which are included in the UNESCO international heritage. Although the cultural-historical and monumental heritage is not very rich, compared to other areas in the country, it represents a strong asset for attracting tourists due to the age and date of attestation of the existing historical fortresses and monuments. The current stage of development of tourism capacities was highlighted through the analysis of several indicators that focused primarily on the development of tourist activity in the villages of this region and through their comparative analysis with the values recorded at the national level. A comparative assessment of the flow of Romanian and foreign tourists arriving in the period 2018-2022, in this area, was also carried out, in order to highlight the level of capitalization of the existing tourist capacities and the stage of its promotion, at the national and international level.

Key words: agritourism, boarding house, management, sustainable tourism, tourism in protected areas

INTRODUCTION

In the current conception, recognized by most researchers, agritourism and tourism, as an economic activity, must be fully connected to the concept of sustainable development, being an activity dependent on the natural resources and the cultural heritage of each society and which uses these resources in common with other users, including local communities [20]. The tourism industry has adopted the concept of sustainable development, whereby all tourism activities in a country must be compatible with the carrying capacity of tourists and tourism equipment of the natural environment, thus ensuring sustainable ecological and economic functioning at all levels. In the area of natural parks and other protected areas, it is very important to explain to tourists as well as the local population the role and way of putting sustainable tourism into practice, and the gradual realization of a way of life compatible with international environmental protection norms, important aspect for the development requirements of future generations [14]. Today, more and more

managers and employees in the field of tourism activities recognize that natural resources have a special economic value, current and potential, only if they are properly managed. The World Tourism Organization (UNWTO) recommends the development, especially in protected areas, of tourism based on environmental conservation, i.e. sustainable tourism or ecotourism, which is the form of tourism in which the main motivation is the observation and appreciation of nature and local traditions", and the conditions that must be met reveal the definite destination of this form of tourism: conservation and protection of nature, use of local human resources; educational character and respect for nature; awareness of nature protection among tourists and the local community; minimizing the negative impact on the natural and social environment - cultural [10, 20, 22]. From the existing data at the national and international level, it can be seen that rural tourism with its component agrotourism and scientific tourism will be established as forms of ecological tourism, especially in protected areas. It has also been observed that these

forms of tourism contribute to rural development, if the local population participates in their development, being at the same time a means of protecting the environment, cultural-historical traditions and rural, local crafts [7].

In our country, the Danube Delta Biosphere Reserve is a protected area, where sustainable tourism, based on the protection of the environment, can be applied and developed in all its complexity. Here the requirements to protect the deltaic ecosystems and to preserve the natural areas still undisturbed by humans are intertwined with the maintenance and development of the traditional local economy and human habitats with their ancestral traditions [11].

In order to support such tourism, the Ministry of Tourism initiated a series of normative acts for the use and protection of sea beaches, mountain areas and tourist resorts, the establishment and protection of tourist heritage, the organization and development of tourism activities in Romania. At the same time, Romania became a party to many world and European organizations and conventions and signed a series of documents stipulating the protection of nature, human habitats, the development of tourism on ecological principles, and, as a signatory party, respects the recommendations and directives of these institutions and with especially of the EU. In Romania, there are few protected areas included in the tourist circuit (ecotourism). These are the Danube Delta Biosphere Reserve, the Retezat National Park, the Rodna National Park (which have some areas declared Biosphere Reserves), but only the first two have their own administrations and programs for economic development, including tourism [11].

In order to adhere to these principles presented above, in the research undertaken by us an attempt was made to create an inventory of the tourist potential of the Danube Delta area and a complex and well-documented analysis of the current state of tourism activity as well as the possibilities of tourism development sustainable, based on ecological principles, which can be practiced in the best conditions in this area [6].

MATERIALS AND METHODS

As is known, the Danube Delta has great prestige not only in our country but also abroad, that is why foreign tourists are attracted by its wonderful landscapes. Over time, the Danube Delta has experienced an important economic development thanks to tourism and managed to be counted among the most important tourist areas in Romania, being a good reason for a long-term stay in this region.

In order to carry out the most relevant and realistic analysis of the tourist potential of this region, we used the classical method and the case study method as a research method, with the help of which, in the first stage, we carried out an observation process on the overview of the tourist potential of this region [2]. After this, we went on to describe mainly all the natural and human resources available to the area, insisting on the practice of tourism specialized in hunting and sport fishing, which is done with some restrictions and with the approval of the Danube Delta RB Administration, on the routes and in the places specially arranged and especially of non-invasive tourism, based on the hunting of images. In the reservations with integral protection regime and ecological reconstruction areas, they are excluded from tourist circulation; buffer zones can be included in the tourist circuit (sports fishing, cruises with non-polluting boats), without setting up tourist facilities, and economic zones are used for tourists only with authorization and under conditions of protection of the deltaic ecosystems.

Afterwards, a careful analysis was carried out on all aspects related to the tourist activity and its related activities, noting the need for more responsible involvement of the inhabitants of the delta in the activity of sustainable tourism through: the development of agritourism and rural tourism, as well as by attracting the labour force in tourism, among the local population, an aspect that will have beneficial economic and social effects on the deltaic settlements and will lead to an increase in the standard of living of the inhabitants [1].

Also, the actual current situation in the tourism industry in the Danube Delta Region was analyzed, by studying several reference indicators, based on which a pertinent characterization from all points of view of the tourism practiced, at this moment, and which are its development prospects. Indicators analyzed were: the number of existing tourist structures in this area, the number of tourists arriving especially in rural areas [1, 8]. Later, the comparative analysis was carried out based on the case study, between certain indicators determined at the national level with the values of the same indicators in the researched area. Indicators were calculated based on data taken from the field and from the National Institute of Statistics (NIS), making a comparison between the values of these indicators at the national level with those of the Delta Zone, including the city of Tulcea. These values were also analyzed by types of tourists, Romanians and foreigners arriving in the period 2019-2022, as well as the average length of their stay, both at the national level and in the researched region [19].

At the end, several conclusions were drawn from which the current stage of tourism development in the Danube Delta Region resulted and what are the measures that must be taken for the more sustained development of sustainable tourism, based on ecological principles, in this area.

RESULTS AND DISCUSSIONS

The Danube Delta, due to the unique value of its ecosystems and especially as a bird habitat, was recognized in 1990 as a "wetland" of international importance and was included in the UNESCO heritage. By Law no. 82/20.10.1993 became the "Danube Delta Biosphere Reserve" – RBDD, as an area of national and international ecological importance. The creation of the RBDD had as its main objective the protection and conservation of natural habitats, but it also supports sustainable development with the ecological support of traditional economic and cultural activities – including tourism, of local communities [5, 8].

Of the 580,000-ha total area of the RBDD, areas with a full protection regime (in which no economic activities are practiced) occupy 50,600 ha (18 reserves), buffer zones with selective activities 223,300 ha (12), economic areas (including for tourism) 306,100 ha, of which ecological reconstruction 11,425 ha [6, 20].

Study on the accessibility and inventory of natural tourism resources

Accessibility in the Danube Delta area is ensured primarily by sea, through the classic routes: Brăila - Galați - Tulcea - Sulina (8 hours), Tulcea - Sulina (3 hours), Tulcea - Sf. Gheorghe (6 hours), Tulcea - Chilia veche - Periprava (4.30 hours), Crișan - Mila 23 (1 hour), and the special routes: Tulcea - Sulina (1.30 hours), Brăila - Galați - Tulcea - Sulina (4.30 hours), Tulcea - Sf. Gheorghe (2 hours) [4].

Access can also be done by rail and road, with accelerated and personal trains, Bucharest - Medgidia - Tulcea (5-8 hours) and personal trains, Constanta - Tulcea (4 hours) and regular bus/minibus routes from: Bucharest, Galați, Constanta to Tulcea, Bucharest – Slobozia (Autostrada Soarelui – 100 km) A2 – Tulcea, Bucharest (DN2) - Urziceni (57 km) - Slobozia (121 km) - Hârșova (DN22A) - Tulcea (270 km).

By air - The Danube Delta Airport in Tulcea is located approximately 3 km south of the town of Cataloi and 17 km from the Municipality of Tulcea. Regular trains, Bucharest - Tulcea (45 minutes) [17].

Regarding the natural resources, an inventory was carried out to reveal their current state. The following resources were targeted in the study: relief, climate, waters, fauna, therapeutic muds.

The relief according to the FAO classification, the Danube Delta is included in the category of regional relief forms of wet plain type on fluvial alluvial deposits with a high degree of fragmentation. The relief through the sand dunes on the Letea and Caraorman ridges, usually associated with a vegetation and fauna specific to these forms of relief, which increases their complexity and aesthetic and scientific value. The coastal strip - the beaches - forms of accumulation relief that are

constantly changing - those from Sulina, Sfântu Gheorghe, Gura Portiței are natural tourist resources directly exploited through the practice of spa tourism, the physical support in the helio-marine cure [5, 6, 18, 21].

Climate. The Danube Delta falls within the area with a temperate semi-arid climate specific to the Pontic steppes. This is considered the place with the least precipitation in Romania. At the entrance to the Danube Delta (Tulcea), a multiannual average amount of precipitation of 450 mm is recorded, and at Sulina, of 360 mm. In most of the delta, between 350 and 400 mm of rain fall, and on the delta coast and most of the lagoons, below 350 mm.

In the Danube delta area specific weather conditions are established: mild winter days and frosty winter days with strong winds, hot and dry summer days or rainy summer days. The duration of sunshine is long, the multiannual average being 2,250 hours, but it can reach 2,600 hours in years with low cloud cover. The temperature is unevenly distributed on the surface of the delta. The multiannual averages indicate an increase in temperature from west to east, with values varying around 11.6° C [5, 6, 12, 18, 21].

Ground water and surface water. The hydrographic network of the Danube Delta is quite complex, presenting a special interest from a geographical, economic, as well as tourist point of view. It ensures the water supply of the lakes, as well as navigability.

This hydrographic network includes: the arms of the Danube, the lakes, the ponds, the marshes, the gorges, the sloughs, the canals, the sahales. The Danube arms, in number of 4, of which only Chilia, Sulina and Sfântu Gheorghe have mouths of discharge into the sea, the 4th, the Tulcea arm (splits into the Sulina and Sfântu Gheorghe arms), being delimited between Chilia and Saint George [5, 6, 12, 15, 18, 21, 23].

The lakes, located especially between the main arms, with edges invaded by reeds and reeds, constitute an important morpho-hydrographic category in the Danube Delta as a whole, even if through the development works of numerous enclosures, many lakes and even lake complexes have been dried up (the Pardina

agricultural facilities, Sireasa). Numerous shallow ponds also appear, which disappear completely in severe droughts, and are partially covered by reeds and reeds.

The backwater are elongated depressions, from the meadow of a flowing water, among the natural backwater, there are still in operation backwater with a total length of 285 km, part of them remaining in the dammed enclosures (the Pardina, Sireasa, Murighiol-Dunavăț agricultural facilities, etc.). In the 1960-1970 period, canals together with natural estuaries represented the most efficient internal hydrographic network in terms of water circulation and naval transport. Between 1991-1994, the dike and the accompanying canal were built between Sulina and Sf. Gheorghe with some negative ecological consequences [5, 6, 13, 18, 21].

Vegetation occupies an area of about 3,000 km², about 68% of the delta's surface; forests, 2%; natural pastures, about 9% and reed beds almost 57% [6]. The dominant element in the vegetation of the delta is the reed beds, in the area of 2,530 km², consisting of homogeneous reeds and reeds mixed with other marsh plants such as: sedge, marsh fern, sedge, etc. In the area between the reed belt and the parts protected from flooding, species of sedge, papering, horsetail, pond lilies, etc. grow. The water kingdom is mostly covered with aquatic vegetation, differentiated according to water level, soil, etc. [5, 6, 15, 18, 21].

Submerged vegetation, which develops in stagnant waters, has, in most cases, its roots embedded in the mud, the surface of the water being traversed by the floral organs. A wide distribution has the marsh sedge and the cossor, then the frog, the scaly, the water plague, brought from Canada to several countries in central Europe. In our country, there is only the female plant, the propagation being only vegetative.

Closer to the shore, plants with floating leaves develop, with a tissue structure that allows them to stay on the surface of the water, these plants being fixed or not by roots. From the first group, the white-water lily and the yellow water lily give a special touch to the gorges of the delta. When in full vegetation, the delta appears as an endless green expanse of reeds

and reeds, interrupted by innumerable strips or eyes of water, fringed with rushes, with poplars or white willows covered with a carpet of floating leaves of water-lilies, and other aquatic plants, whose white and yellow flowers bring a touch of tenderness to the landscape.

Unflooded alluvial beds have the high parts occupied by grasses that make up pastures; drought-resistant species can also appear like the weed *Bromus secalinus* (obsiga in Romanian) and *Lolium perenne* (zâzania in Romanian). The rest of the land is occupied by willow, willow, sedge and buckthorn. On the fluvial-maritime ridges, with sand dunes that reach the highest heights in the delta (about 7 m), there are some areas of land devoid of vegetation, and others offer living conditions for the vegetation cover, being covered by grassy steppes, sedges and forests, with luxuriant development, such as those on the Letea and Caraorman ridges. Near the sea, the vegetation is poorer, with plants adapted to sandy soils: sand plantain, field reed and sea cabbage. The oak forest on the Letea ridge has a mixture of essences and especially lianas, wild vines and Mediterranean plants. Similar are the forests on the maritime ridges of the delta, in which white poplar, black poplar and quaking poplar, oak, ash and wild vine grow [5, 6, 12, 18, 19, 21, 23].

Fauna. The Danube Delta contains more than 360 species of birds and 45 species of freshwater fish in its many lakes and streams. This is the place where millions of birds from different corners of the Earth (Europe, Asia, Africa, Mediterranean Sea) come to nest. The major fish species in the Danube Delta are pike and catfish. The fauna of the delta is rich and varied in species of mammals, birds, reptiles, amphibians, fish, crustaceans, snails, molluscs and insects; some of which are protected.

Mammals found in the Danube delta are: wild boar, otters, river otter, European mink, small ermine, weasel, spotted ferret, steppe ferret, golden jackal, hare, European ptarmigan, hedgehogs, pygmy mouse.

The national park shelters and provides food and nesting conditions for several migratory, migratory or sedentary birds protected at European level, among the bird species reported in the delta area: eagles, skylark,

ducks: mallard duck, little duck, quack duck, brown-headed duck, ruddy duck, tufted duck. Geese: Summer Goose, Greylag Goose, Red-breasted Goose, Red-necked Wagtail, Wood Wagtail, Upland Wagtail, Gray Heron, Night Heron, Little Egret, Red Heron, Yellow Heron, Blue Gull, Gull black-headed gull, laughing gull, slender-billed gull, little gull [5, 6, 13, 15, 18, 19, 21].

Other species are: summer swan, winter swan, little swan, black stork, white stork, merganser, plover, bittern, garden bird, garden woodpecker, oak woodpecker, black woodpecker, little egret, great egret, curly pelican, common pelican, Danube falcon, peregrine falcon, evening tern, Banatian stoner, eastern stoner, southern stoner.

The fish species with higher value are: avat, grig, grayling, Danube flounder, Danube flounder, catfish, flounder, perch, widow, pike, crucian, bream, sturgeons (mullet, bream, trout, blind) [5, 6, 15, 18, 21].

The protected nature of the Danube Delta includes 20 strictly protected areas, totalling a total area of over 50,000 ha, representing approximately 9% of the total area of the reserve. The most important of these are: Roșca - Buhaiova, Sărături - Murighiol, Popina Island, Periteașca - Leahova, Grindul Lupilor and Chituc, Ceaplace Island, Letea and Caraorman Forests, Nebunu Lake, Sacalin - Zătoane, Belciug Lake, etc. [5, 6, 12, 15, 18, 21].

Therapeutic muds. Sapropelic sludge is a type of sludge rich in organic substances in various stages of decomposition. Its basic component is sapropel, a silty sediment, rich in organic substances (vegetable remains, algae, zooplankton, etc.) – decomposing, unconsolidated, formed in an anoxygenic (euxinic) environment. They have a content in organic substances > 10 % relative to the weight of the dry substance. Such muds are found at salts lake [5, 6, 15, 18, 19, 21].

Study on the inventory and analysis of anthropogenic tourism resources

Anthropogenic potential - represents the totality of tourism resources resulting from human creation from a cultural-historical and technical-economic point of view within a territory or a settlement. In the studied area,

several tourist objectives represented by the main existing archaeological remains were taken into account, such as: fortresses, religious edifices, museums and monuments.

Citadels. The Aegysus Citadel was a Getic settlement, surrounded by strong walls, located on the bank of the Danube, which was very difficult to reach, but was conquered by the Romans. The name of the fortress is of Celtic origin. The first identification with the city of Tulcea is made at the end of the 18th century - the beginning of the 19th century and was confirmed by the discovery of inscriptions in Latin in 1949 [4, 5, 6, 18, 21].

Histria Fortress was built 2,600 years ago by Greek sailors and merchants on the shores of Lake Sinoe in the northern part of the Istrian peninsula to trade with the native Geto-Dacians. The fortress was surrounded by a very strong defensive wall and was supplied with water through 20 km long pipes, the streets were paved with stone and there were educational and cultural institutions. It existed until the 6th century when it was invaded and destroyed and the inhabitants left in search of a better place. Slowly, slowly the fortress of Histria was ruined and the place and the name were forgotten until 1914 when it was brought to light by the excavations of the great historian and archaeologist Vasile Pârvan. Histria is considered the oldest urban settlement in the country. [4, 5, 6, 15, 18, 21].

The fortress of Enisala or Heracleea was a settlement built by Genoese merchants in the second half of the 14th century 17 km from Jurilovca and 2 km from the town of Enisala on a limestone hill, a hill that dominates the Razim and Babadag lakes. This fortress was part of the defences system of Wallachia until 1420 when it was conquered by the Turks. The citadel has an irregular polygonal plan and in the southeast and east it is guarded by walls 3 m thick and about 6 m high [5, 6, 13, 18, 21].

The Troesmis fortress is located 3 km from the Turcoaia commune and is a Getic fortress mentioned in the century. III BC During the Roman period, it became a strong military strategic point, later elevated to the rank of "municipium". Between the 1st century - the VII AD it was one of the biggest cities in Dobrogea, then it lost its urban function.

The Chilia Veche fortress is located on the left bank of the Danube, in the area of the town of the same name. The fortress dates back to Greek Antiquity and the name comes from the Greek word Cellie, which means a pantry for storing food. The settlement was a well-appointed fortress that kept merchants' goods safe [5, 6, 17, 18, 19, 21].

The Byzantine fortress of Salsovia, Mahmudia (3rd century AD). Civil and military settlement from the Roman-Byzantine era, fortified with two ditches and a mound of earth between them. It is assumed that the waters of the Danube reached the base of the fortress and the walls were 2 m thick. Destroyed by the Goths in the second century. 4th century, the fortress was rebuilt by the Byzantines and continued to exist until the c. the ninth.

Noviodunum Fortress, Isaccea. Romano-Byzantine fortress with a Celtic name ("dunum" means "fortified settlement" in the Celtic language), built in 369 AD. on the bank of the Danube at the point "Pontonul Vechi" 2 km from the current city of Isaccea. It had an important strategic commercial and economic role being a fortified settlement with an urban character that experienced a great flourishing as indicated by the public edifices and monuments, as well as the baths. Currently, the citadel is an archaeological site located in the eastern part of the city of Isaccea that has not yet been fully excavated.

Arrubium Citadel, Măcin - The Roman fort of Arrubium, whose ruins are located on the territory of the city of Măcin in the north-west, is documented for the first time around the year 100 CE. in two military diplomas just as the Emperor Trajan prepares the attack camp against Decebalus. The presence of an auxiliary Roman unit (ala) formed by the Thracian population of Dardania, dardani, is mentioned at Arrubium [4, 5, 6, 18, 21].

Dinogetea Fortress, Gârvan. Its name was mentioned for the first time by Ptolemy in his well-known work "Geographia" (2nd century AD). Originally a Geto-Dacian and then a Roman settlement, the Dinogetia fortress was built during the reign of Emperor Diocletian (284-305 AD). Destroyed in 559 AD. by a Hunno-Bulgarian tribe, the fortress was reconsolidated and enlarged in the c. X-XII.

The most important building is the basilica in the middle of the fortress, the oldest in our country [5, 6, 18, 21].

Religious buildings. Celic-Dere Monastery. Monastery of nuns dedicated to the "Assumption of the Virgin Mary" (August 15); is located in Frecăței commune, Tulcea county, it is reached on the modernized Tulcea - Frecăței road. The monastery was built after 1841 on the hearth of an old hermitage inhabited by Romanians, by Archimandrite Athanasie Lisavenco and other Romanian monks.

The Rooster Monastery. It is a monastery of monks, it is patronized by "Holy Trinity", it is located in Niculitel commune, Tulcea county, it is reached on the modernized Tulcea-Isaccea road. The monastery is located in a secluded place, at the foot of a hill enveloped in the scent of linden forests. The legend says that the name of the monastery comes from the fact that once, a long time ago, from this hill one night the song of a wild rooster was heard accompanied by the beating of a stoop. The monks say that this song is still heard today, sometimes [5, 6, 12, 17, 18, 21].

Saon Monastery. This holy settlement came into existence under the Ottoman rule in 1846, by the departure of some monks from the Celic-Dere Monastery. A few years later Saon becomes an independent monastery, the monks built the current old church from adobe and wood dedicated to "The Entry of the Mother of God into the Church", which still exists today, as well as two cells, of which only the row of the Chapel.

The church with a clock The Church of St. George was finished and consecrated in 1857. The founders of the church are Dumitrache Bei Teodorof and Hagi Valici Stefanoff, who are buried in the churchyard. The church was built in the shape of a ship and the author and no site of an older church is known [5, 6, 12, 18, 21].

Greek Church. The "Buna Vestire" church in the municipality of Tulcea is one of the oldest churches in the north of Dobrogea. The church is not a foundation, the funds necessary for its construction were obtained from the donations of the faithful, the church was finished in 1854. The Cathedral or Church of Saint Nicholas is located in the centre of Tulcea. The

monumental construction, in Byzantine style in the shape of a cross, dominates the surroundings with its majesty, and on feast days its existence is made known by the sound of its famous bells, cast in Bavaria in 1882. The Holy Table is made of stone blocks, on which can still be seen today on the southern side, probably a former cross [5, 6, 13, 18, 21].

Museums. "Danube Delta" Museum An architectural monument, the museum building belonged to the Greek shipowner Alexandru Avramide and was built by two Italian craftsmen as a symbol of his family's prosperity. After 1944, the Avramide house became the seat of the Greek Democratic Committee. Currently the house functions entirely as a Museum of Natural Sciences, with a collection of 1,500 biological pieces and a voluminous herbarium, dating from 1964.

The Art Museum is located near the Danube embankment and houses collections of contemporary art, engraving and sculpture and boasts an exceptional collection of interwar avant-garde signed by Romanian artists such as: Gheorghe Petrașcu, Nicolae Tonitza, Frederic Storck, Ion Jalea, Theodor Pallady, Nicolae Grigorescu, Oscar Han, Victor Brauner - the most important painting collection in the country. The jewel of reference remains his painting collection, which is made up of some of the most valuable works of Romanian art [4, 5, 6, 13, 17, 18, 21, 23].

The History Museum is located on one of the hills of the city of Tulcea. The museum makes a foray from antiquity to the medieval era of the history of Northern Dobrogea, exhibiting a rich archaeological heritage - almost 90,000 archaeological, numismatic and epigraphic pieces.

The Museum of Ethnography and Folk Art houses numerous temporary exhibitions of creations and traditional folk customs specific to Dobrogea and the entire country, holding a number of approximately 6,400 pieces. The museum also manages the Memorial House of the Dobrogean writer Panait Cerna, the Panaghia House in Babadag - a beautiful exhibition of oriental art and the Museum of the Dobrogean Village in Enisala - a preserved "in situ" peasant household.

On the main artery of the city of Tulcea there are also the House of Culture, the County Library, the Art Galleries of the Plastic Fund [4, 5, 6, 18, 19, 21].

Monuments. The lighthouse of the European Commission of the Lower Danube, the construction of this lighthouse was established after the establishment of the European Commission of the Danube, by the "Public Act regarding navigation on the Danube", issued on November 2, 1865 in Galați. The plans and construction of this objective were carried out by English engineers who also participated in the realization of the plans for the construction of the navigable channel as well as those for the permanent maintenance of the Sulina arm [4, 5, 6, 18, 19, 21, 23].

The Water Tower from Sulina. The exact date of construction of this lens is unknown, but it is still in very good working order today. It is a construction that impresses with its grandeur and solidity.

The palace of the former European Commission of the Danube, the building is U-shaped, with a ground floor and an upper floor, and functioned as the headquarters of the European Commission of the Danube until 1921. The architecture of the building, which has the scope of a university, is in the neoclassical style, with a symmetrical composition in plane and space [5, 6, 12, 17, 18, 21, 23].

The Observatory Lighthouse also built during the period of the European Commission of the Danube, currently unusable. It is located on the left bank of the Danube, and its connection with the mainland is achieved by a long stone pier.

The Sulina Maritime Cemetery houses the only grave in Europe with the famous pirate sign: the skull with two crossed bones. Here rests the pirate Ghiorghios Kontoguris, who died in Sulina at the age of 33 and was buried by his brother.

Geamia Azzizie from Tulcea. Historical monument and religious architecture. The building was built in 1924 in the shape and style of the old window from 1863. It is one of the tallest buildings in the city. Azizie Mosque, the largest mosque built by the Ottoman Empire in Dobrogea and was built by the local

ruler Izmail Pasa. Geamia is the most important place of worship for the Muslim community in Tulcea [5, 6, 17, 18, 21, 23].

Pieta Civico in Tulcea was built between 1970-1972, and is a wide, beautiful square, floored with marble tiles, with artesian fountains, being a place of recreation for locals and guests. In the centre of the square is the statue of Mircea the Elder, the work of the Tulcean sculptor Ion Jalea [5, 6, 13, 17, 18, 21, 23].

Study on the tourist activity in the Danube Delta area

The study was mainly carried out as a case study on the tourist activity in Tulcea county, because most tourist reception structures in the Danube Delta area are concentrated in this county.

In our study, we insisted on the tourist activity carried out especially in the rural area, but also on the tourist activity as a whole, through the analysis of the tourist circulation, differentiated by categories of Romanian and foreign tourists who arrived in the period 2019-2022, in the studied area.

The data entered in Table 1 show us that the total number of tourist reception structures in the villages of Tulcea county increased from year to year, reaching 324 in 2022. Among the localities studied, it can be observed that most tourist reception structures tourist reception are built in Murighiol locality, 98 in 2019, and the fewest in Luncavița and Chilia Veche localities.

Table 1. Number of tourist reception units in the villages of the Danube Delta-County Tulcea

Types of structures of tourist reception	Localities	Years/Number of units			
		2019	2020	2021	2022
Total	Total	298	316	312	324
	Chilia Veche	5	5	5	5
	Crișan	34	28	39	33
	Jurilovca	19	21	19	22
	Luncavița	3	3	3	3
	Mahmudia	17	18	14	21
	Maliuc	8	10	10	13
	Murighiol	80	88	98	94
	Sf. Gheorghe	31	32	17	35
	Other localities	101	111	107	98

Source: own data and from National Institute of Statistics, NIS [9].

Table 2. Number of tourist reception units in the villages of the Danube Delta-County Tulcea, by types of accommodation structures

Types of structures of tourist reception	Localities	Years/Number of units			
		2019	2020	2021	2022
Hotels	Total	18	18	20	21
	Crişan	1	1	1	2
	Mahmudia	0	1	0	1
	Murighiol	4	3	4	4
	Other localities	13	13	15	14
Hotels apartment	Total	0	0	1	0
	Murighiol	0	0	1	0
Tourist villas	Total	75	78	61	88
	Crişan	1	0	0	2
	Murighiol	19	21	18	26
	Sfântu Gheorghe	23	22	9	30
	Other localities	32	35	34	30
Bungalows	Total	37	39	48	46
	Chilia Veche	1	1	1	1
	Crişan	10	10	10	10
	Jurilovca	14	16	14	18
	Murighiol	11	11	17	15
	Other localities	1	1	6	2
Campgrounds	Total	4	5	3	5
	Crişan	1	1	0	1
	Murighiol	2	3	2	3
	Sfântu Gheorghe	1	1	1	1
Tourist stops	Total	3	3	4	4
	Maliuc	1	1	1	1
	Murighiol	2	2	3	3
Tourist cottages	Total	5	4	3	5
	Jurilovca	1	1	1	1
	Mahmudia	2	2	1	2
	Murighiol	2	1	1	2
Boarding houses tourist	Total	13	26	26	26
	Crişan	0	1	0	1
	Other localities	13	25	26	25
Boarding houses agritourist	Total	118	113	133	144
	Chilia Veche	4	4	4	4
	Crişan	19	13	24	20
	Jurilovca	3	3	3	3
	Luncaviţa	3	3	3	3
	Mahmudia	13	13	11	16
	Maliuc	2	14	4	18
	Murighiol	37	41	47	48
	Sfântu Gheorghe	7	9	7	15
	Other localities	30	13	30	17
Accommodation spaces from the ships fluvial and sea	Total	21	24	24	27
	Crişan	2	2	4	3
	Jurilovca	1	1	1	1
	Mahmudia	2	2	2	2
	Maliuc	5	5	5	5
	Murighiol	3	6	5	8
	Other localities	8	8	7	8

Source: own data and from NIS [9].

In order to highlight the level of development of sustainable tourism in the researched area, a more thorough analysis of the number of tourist reception structures, differentiated by accommodation units, was carried out. It is known from previous studies that rural tourism and agritourism are two specific forms of tourism that fall into the category of sustainable tourism, based on the principles of environmental protection and ecotourism.

From Table 2, it can be seen that the tourist structures where rural tourism is generally practiced, such as villas, rest stops, cottages and tourist guesthouses, have developed a lot in the period 2019-2022, because the local people have realized that such structures smaller in size, it fits much better into the traditional deltaic architecture and the surrounding environment. It is also noted that the agritourism reception structures have developed sustainably during the studied period, their number increasing by almost 35%, compared to 2019, reaching 144 in 2022. The increase in the number of tourist reception structures of this type it is mainly due to the increase in the degree of culture and the level of information of the people of the places, but especially of those who invest in this field, in terms of the need to practice a flexible tourist activity, with smaller structures that can adapt to the needs specific to the Danube Delta area and from which to obtain maximum profits, respecting and protecting all the components of the wonderful environment.

Also, in order to highlight the level of development of tourist activities in this area, the number of tourists arriving especially in the villages of Tulcea county was determined, by types of reception structures and by forms of tourism, classically in hotels and other structures of this type and rural tourism based on sustainable principles, practiced in tourist and agritourism guesthouses.

From Table 3 it can be seen that the number of tourists from guesthouses is approximately more than twice as high, 42,000 tourists, than that of those who arrived in classic tourism, which in the same year 2022 was only slightly over 23,000.

Table 3. Number of tourists arriving in the villages of the Danube Delta-County Tulcea, by types of structures

Types of structures of tourist reception	Localities	Years/ Number of tourists arrived			
		2019	2020	2021	2022
Hotels	Total	15,978	5,976	9,288	10,876
	Crîșan	2,797	1,522	1,958	2,770
	Mahmudia	0	1,377	0	2,506
	Murighiol	13,181	3,077	7,330	5,600
Hotels apartment	Total	0	3,776	0	7,023
	Murighiol	0	3,776	0	7,023
Tourist villas	Total	13,300	7,524	11,094	11,715
	Crîșan	78	0	4	0
	Murighiol	2,112	1,842	340	3,352
	Sfântu Gheorghe	11,110	4,595	10,750	8,363
Tourist cabins	Total	178	40	231	75
Bungalows	Total	6,166	9,365	7,214	10,756
	Crîșan	0	892	0	1,033
	Jurilovca	5,214	6,521	5,927	7,489
	Murighiol	952	1,952	1,287	2,234
Holiday villages	Total	684	150	59	612
Campgrounds	Total	3,011	3,885	2,460	4,382
	Crîșan	390	17	0	120
	Murighiol	543	946	776	1,050
	Sfântu Gheorghe	2,078	2,922	1,684	3,212
Tourist stops	Total	893	409	1,241	744
	Maliuc	893	409	1,077	744
	Murighiol	0	0	164	0
Tourist cottages	Total	186	4,900	605	6,229
	Jurilovca	0	2,169	447	2,711
	Mahmudia	186	410	152	512
	Murighiol	0	615	6	769
	Sfântu Gheorghe	0	1,706	0	2,237
Boarding houses tourist	Total	7,443	6,153	6,008	6,998
Boarding houses agritourist	Total	33,215	29,913	30,826	45,073
	Chilia Veche	714	825	627	1,237
	Crîșan	8,725	7,540	5,841	11,310
	Jurilovca	813	629	1,204	943
	Luncavița	505	94	383	345
	Mahmudia	2,433	2,365	1,995	3,547
	Maliuc	616	1,197	711	1,796
	Murighiol	18,412	16,110	19,391	24,165
Sfântu Gheorghe	997	1,153	674	1,730	
Accommodation spaces from the ships fluvial and sea	Total	2,839	2,312	3,668	4,533
	Crîșan	0	0	156	0
	Jurilovca	241	124	432	421
	Mahmudia	204	188	264	272
	Maliuc	1,043	328	1,400	1,322
	Murighiol	1,351	1,672	1,416	2,518

Source: own data and from NIS [9].

Another indicator that helps us determine the stage of development and promotion of tourism in the Danube Delta area, both nationally and internationally, is the number of tourists who arrived in the analyzed period, in this region, by types of tourists. As can be seen from the comparative study carried out on the basis of the data entered in Table 4, the total number of tourists arriving at the national level was the highest in 2019, over 13 million, it decreased a lot in 2020, during the pandemic period, at only 6.3 million. The same decrease is also observed among foreign tourists, in 2020 being only 453,263.

The pronounced downward trend in tourist traffic is also found in the Danube Delta area and the city of Tulcea, including, as can be seen from the same table, the number of tourists arriving decreased from 166,411 in 2019 to only 106,830 in 2022, an obvious decrease is found among foreign tourists, their number being only 1,528, in 2020, the year in which the negative effects of the pandemic were felt the most, especially in the circulation of foreign tourists. It is found that even after the lifting of all restrictions, the tourist activity in this area recovers more difficult, due to the specific conditions of the delta and the lack of more

sustained promotion, the number of tourists arriving in 2022 being lower, by almost 50%, than in 2019 [3, 16].

Table 4. Arrivals in accommodation structures by tourist destinations and types of tourists

Destinations	Types of tourists	Years/ Number of tourists arrived			
		2019	2020	2021	2022
Total Romania	General	13,268,756	6,335,401	9,276,719	11,299,111
	Romanian	10,597,048	5,882,136	8,436,145	9,718,046
	Foreigners	2,671,708	453,265	840,574	1,581,065
Total, Delta area Danube, including the city Tulcea	General	166,411	118,325	137,123	106,830
	Romanian	146,006	116,797	131,165	97,203
	Foreigners	20,405	1,528	5,958	9,627

Source: own data and from NIS [9].

Table 5. Overnight stays in accommodation structures by tourist destinations and types of tourists

Destinations tourist	Types of tourists	Years/ Number of nights			
		2019	2020	2021	2022
Total Romania	General	29,870,358	14,444,727	20,653,053	24,319,613
	Romanian	24,603,394	13,448,882	18,824,936	20,860,755
	Foreigners	5,266,964	995,845	1,828,117	3,458,858
Total, Delta area Danube, including the city Tulcea	General	380,375	299,766	280,935	217,221
	Romanian	333,885	295,084	269,831	194,699
	Foreigners	46,490	4,682	11,104	22,522

Source: own data and from NIS [9].

As can be seen from Table 5, the total number of overnight stays in the studied area has the same sustained downward trend as the number of arrivals, which are more than 45% lower in 2022, compared to the normal year before the pandemic 2019.

An interesting aspect that was found in the studied period 2019-2022 is the fact that the average length of stay increased especially in 2020, the year in which the restrictions on the movement of tourists of all types were the highest. The values recorded this year exceeded by 20% the average values recorded in the other reference years, which were approximately around 2.2 days.

The average value of the stay in 2022 being 2.73 days for the general total and 2.52 days for Romanian tourists and 2.94 days for foreign tourists (Table 6).

The longer average length of stay in the studied area in 2020 can be explained by the fact that the tourists who arrived this year found more favorable conditions for isolation and distancing, in the villages and tourist reception structures in this area, due to the richer natural resources and diversified existing and due to the environment kept unchanged, i.e. not urbanized and not excessively industrialized. Regarding the net utilization index (Iu %) of the accommodation capacity in Romania, as can be seen from Table 7, it decreased from

34.2% in 2019 to only 22.9% in 2020, year when tourist circulation at national and international level was considerably reduced due to the maximum-security conditions imposed to limit the spread of the Covid-19 virus.

Table 6. Average length of stay compared to the level national and the studied area

Destination tourist	Types of tourists	Years/ Number of days				/ Number of days
		2019	2020	2021	2022	
Total Romania	General	2.25	2.28	2.23	2.16	
	Romanian	2.32	2.28	2.26	2.14	
	Foreigners	1.98	2.28	2.20	2.18	
Total, Delta area Danube, including the city Tulcea	General	2.28	2.73	2.05	2.13	
	Romanian	2.28	2.52	2.1	2.0	
	Foreigners	2.28	2.94	2.0	2.26	

Source: own data and from NIS [9].

Table 7. Indices of net utilization (Iu %) of the capacity of tourist accommodation in operation on total tourist reception structures, in the period 2019-2022

Destinations tourist	Index	Years			
		2019	2020	2021	2022
Romania	Iu %	34.2	22.9	26.5	30.1
Delta area Danube, including the city Tulcea	Iu %	32.8	31.1	27.9	23.5

Source: own data and from NIS [9].

A special phenomenon was registered at the level of the studied area, because as can be seen from the same table, in 2020, the usage index remained around the value of over 31.1%, this aspect can be explained by the fact that during this period in the studied area the average length of stay was higher by more than 25%, compared to the other years, reaching the maximum value of more than 2.73 days, compared to the average of 2.2 days, in the other research years. In 2020, Romanian and especially foreign tourists stayed longer in the area, the length of stay of foreign tourists being over 2.93 days. This was primarily due to the specific environmental conditions in the Danube Delta, which allowed tourists to find very good conditions of isolation, safety and relaxation, which were sought by most of them, after a year of pandemic and restrictions imposed on tourist traffic.

Based on the complex and well-documented study that covered the aspects presented above, it was possible **to identify and highlight the main strong and weak points of the tourist activity in the Danube Delta area**, as follows:

The strong points are:

- Very rich and varied natural and anthropogenic tourist potential (unique landscapes, a multitude of birds, specific traditions and customs, etc.);
- Numerous tourist routes (most with river boats);
- Tourist bases for accommodation, food and leisure in development;
- The existence of many leisure possibilities, especially the practice of various sports.

The weak points of this area are:

- Lack of investors in the field;
- Poorly developed infrastructure;
- Lack of an accessible database regarding the development of cultural events in the area;
- The reduced number of training programs for tourism and the non-adaptation of the existing ones to market requirements;
- Non-observance of cleanliness in the area of the Danube delta, especially in the perimeter of the protected areas;
- Lack of telephone or internet signal in certain localities;
- Weak promotion of the area and insufficient capitalization of the tourist potential of the

delta;

- Very little involvement of the authorities in obtaining financing;
- The strong effects of the current pandemic that have led to a significant decrease in the number of tourists in the delta.

It was also identified which are **the main measures that must be taken for a better exploitation and development of sustainable tourism in the Danube Delta**, such as:

- valorisation of currently unused natural potential;
- infrastructure investments;
- increasing the quality of tourist services, correct quality-price ratio;
- preservation, restoration and enhancement of the architectural and cultural heritage of local communities - rehabilitation of monuments and historical ensembles;
- construction, rehabilitation of museums, exhibition halls, cinemas and historical monuments;
- the modernization of tourist reception structures, but also the modernization and diversification of the services they offer;
- creation, rehabilitation and expansion of tourism infrastructure for spending free time and related utilities;
- training and education of personnel involved in tourism services at all levels, through training, qualification and improvement courses;
- increasing actions to promote the area;
- more sustained involvement of the authorities in attracting investments or financing.

CONCLUSIONS

From the analysis of accessibility in the area, it was concluded that it is greatly hampered by the lack of paved roads, the poor condition of some county and communal roads, the reduced number of boats transporting tourists to villages with tourist potential and the almost total lack of parking and public health groups, in many localities.

It was also found that the natural tourist potential of the area is very rich, diversified and unique, but responsible and clear measures must be taken for its protection and conservation, by promoting education

programs and increasing citizens' interest in protecting the environment and tourist resources, the protection and conservation of natural habitats and species of flora and fauna endemic to the Danube Delta. This aspect must also aim at a sustainable management of the forests, through which the forest exploitation regime is strictly respected, because the Delta area is also a sandy area and forest vegetation is needed to fix the soil.

A very important fact regarding the protection of deltaic fauna in particular is the prevention and prevention of poaching, which unfortunately has greatly contributed to the reduction of the number of protected species and specimens. In order to further reduce the disappearance of valuable specimens of bird and animal species, it would be very good for tourist reception structures and actors in the field of tourism to orient themselves as much as possible towards the practice of specialized tourism on the hunting of images and less on hunting classic type.

Also, from the study carried out by us, it was concluded that the anthropic component consisting of museums, vestiges of previous civilizations, elements of ethnography and folklore unique in the world, etc., represents a strong element of tourist attraction at the level of the Danube Delta. This together with the natural component representing the basic premises of an efficient and intense activity, for almost all forms of tourism: holiday, cultural, recreational, knowledge, sport fishing, adventure, hunting as a sport and more recently hunting of images.

The analysis of the main indicators on the basis of which the quality of the tourist activity in the Danube Delta area was characterized brought out the conclusion that their values are at a lower level compared to the average values recorded at the national level and therefore effective measures must be taken to improve them such as: reconsideration the place of domestic tourism and the promotion of domestic tourist circulation; penetration into new tourist markets; loyalty of the current tourist clientele through tourist packages at a more attractive price; promotion of the "Danube Delta" tourist product, differentiated according to the specificity of the offer of each

locality; active promotion and support of sustainable tourism packages (agritourism, ecotourism, sports tourism, etc.); organizing events, fairs, celebrations and capitalizing on ethnographic and historical tradition: valuing and promoting the existing multiculturalism and capitalizing on the traditional customs specific to the various ethnic groups in the delta, etc.

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