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THE DANUBE DELTA AND ITS TOURISM DEVELOPMENT BETWEEN 1989 AND 2022

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Abstract. In Romania, the most promoted tourist offer is that of the Danube Delta, a magical area, an extensive wetland, with a surface of 4340 sq. km. The declaration in 1990 of the Danube Delta as a Biosphere Reserve and a UNESCO World Heritage Site led to the division of the delta into strictly protected areas and areas that can be developed economically. The presence of 4 towns and 32 villages with a low population density is the element that can support the development of sustainable tourism. Human pressure on natural resources is low. Between 1989 and 2022, tourism development in this nature reserve has been on the rise and on the decline, due to a number of factors. The research carried out on the basis of important statistical indicators of tourism in the Danube Delta for about three decades has shown what the causes are and what solutions are useful for the future of tourism. The development of tourism in the Danube Delta is an economic phenomenon with a late evolution due to historical causes. After 1960, several hotel constructions started to be built in the main towns of the Danube Delta. This process accelerated after 1990. In the early years, in the absence of specific legislation for the development and protection of this delta area, many investments were made in tourism without taking into account the interests of the local population. The increase in traffic, the “modernization” of the Danube Delta boat transport system and the increase in the speed of access to the Delta led to the development of chaotic and uncontrolled tourism. The tourism sector has had periods of boom and bust between 1989 and 2022. The statistical data collected over a period of 33 years show the evolution of this tourism but also the influences given by the evolution of Romanian society as a whole, the economic and legislative environment which have also created some less positive aspects at local level. From all the analysis carried out, it appears that tourism has had a chaotic development in the last two decades and represents an increasing threat to the biodiversity of the Danube Delta, and this trend continues to accelerate. Local communities do not benefit from tourism development, but feel ignored by the investments made by entrepreneurs. The Danube Delta’s natural resources must be an important source of income for its inhabitants.

Keywords: Danube Delta, biodiversity, sustainable tourism, economic evolution

1 INTRODUCTION

The paradigm of climate change, environmental protection and nature conservation requires a reorientation of tourism towards forms and activities that fit into this context. Tourism in protected natural areas has countless benefits, both economically and above all in terms of preserving biodiversity, beautiful natural areas and cultural authenticity. Tourism in protected natural areas has become increasingly important in recent years. Trends at global or regional level are also being seen at national level, a good example being tourism in the Danube Delta.

The Danube Delta, like the other deltas, is a newly formed entity, resulting from the relationship between the important factors that control the coastal areas, i.e. sea level variation, tides, waves and currents,

on the one hand, and the water flow in the spillway sector on the other. From a morphological point of view, the Danube Delta can be considered as an alluvial plain in formation, which can be noticed by a low hypsometry (average 10-20m), part of which is below sea level. From a physical-geographical point of view, the Danube Delta is divided as follows: the fluvial delta and the maritime delta constitute two distinct natural sub-regions. (Gâștescu, 1993)

The Danube Delta has a total area of 564,000 ha, 82% of which is located on Romanian territory. (Figure 1) It has a lobate system with three arms and numerous side channels, lakes and riffles. The Delta has 46 types of ecosystems, of which the dominant are aquatic (11), marsh (4), terrestrial (5), anthropized (7), sandstone (16), reed beds and compact plains (3), 7 types of landscapes, of which the dominant is that of the river delta and the least of the anthropized landscapes dominated by small villages. (Pascariu, 2017)



Figure 1. The Danube Delta position (www.sites.google.com)

There are 20 strictly protected areas in the Danube Delta covering more than 9% of the total territory. It includes different species of flora and fauna in unaltered or slightly modified conditions. The European NATURA 2000 network in the Delta includes:

- The Danube Delta site and Razim-Sinoie Complex (ROSPA0031), which hosts more than 250 protected bird species, including 97 listed in Annex 1 of Directive 79/409/EEC, 151 listed in the Annex to the Bonn Convention on Migratory Species and 17 globally endangered species;
- The Black Sea site (ROSPA0076) is also an attractive habitat for many species of migratory, sedentary and passage birds and is an important migration corridor for northern European flocks;
- The Danube Delta site (ROSCI0065) has a unique deltaic ecosystem in the European and even global context, with its diversity of biotypes and resources, influenced by the waters of the Danube and the alluvium deposited by it. (Pascariu, 2017)

The Danube Delta, together with the Caraorman Forest and the Letea Forest, the only subtropical forest in Europe on marine sand dunes, formed by calcareous marine shell, is the third largest area in the world in terms of the number of species of plants, animals, fish, amphibians, reptiles, birds, etc. - over 5500 species, including 300 birds and the largest pelican colony in Europe.

Strictly protected areas cover some 65,000 ha, including reed beds and 600 lakes larger than one hectare. The ecosystems of the Danube Delta, although subject to human pressures, are largely intact. (Law

no. 82/1993) The strictly protected Rosca-Buhaiova area is considered almost untouched by man, thanks to low water levels and clusters of plains, making access almost impossible. The Zătoane-Sacalin Strictly Protected Area (the largest area in the delta) is a patchwork of lakes, ponds and reed beds with parallel sandy belts (grinds). Sacalin Island is made up of alluvial deposits with sand dunes, on which tamarisk (red sea-buckthorn) stands. (Gâstescu, 2021)

As a UNESCO Biosphere Reserve it has its own administration, headed by a governor, which includes an institute and several research centres. (G.D. no. 763/2015) Within the reserve there are 18 fully protected areas, 19 water tourist trails and 7 authorised land trails. (G.D. no. 602/2016) Demographically, it has a small population with many ethnic nationalities, a multicultural mosaic and a gastronomy focused on fish dishes. In 2000 it was awarded the European Diploma for protected areas and nature monuments. (Belacurencu, 2006)

The population of the delta is about 12,000 inhabitants. People live in villages along the three river arms of Chilia, Sulina and Sfântu Gheorghe, which are also the main source of drinking and fishing water. Most of the population is elderly, while the younger population has left the countryside for urban areas. In the reserve and in the surrounding area there are the towns of Tulcea, the other county seat, four towns - Babadag, Isaccea, Măcin and Sulina and thirty-two rural localities. Four of the communes (Corbu, Istria, Mihai Viteazu and Săcele) fall within the administrative boundaries of Constanța county with the delta; all four border the Razim-Sinoe lagoon complex.

The Danube Delta was and is a special tourist destination, due to its characteristics (exceptional natural heritage), originality of natural and cultural landscapes (relief, water, vegetation, fauna, population and human settlements). Achieving an appropriate balance between the development of the Danube Delta tourist destination and environmental protection, on the one hand, and the development of a competitive economic activity, with benefits for local communities, on the other hand, can be a challenge for the local administration. (Driga et al., 2006)

A careful radiography of the history of tourism in the delta shows us that after 1950 this geographical area has always been in the attention of governments and local public authorities in order to exploit these natural riches through tourism. (Tănăsescu, Constantinescu, 2020) The development of the tourism industry has not always been linear and upward and has had periods of regression due to unwise actions on the part of local entrepreneurs who did not understand the importance and beauty of this delta area.

2 METHODS

In starting the research for tourism in the Danube Delta, we started from a review of several strategies developed over the last two decades. The most important of these are listed below.

The *Seville Strategy for Biosphere Reserves* (1995), a document that identifies the specific role of biosphere reserves in developing a vision of the relationship between conservation and development. It provides recommendations for the effective development of biosphere reserves and for establishing the conditions for the proper functioning of the World Network of Biosphere Reserves. The strategy includes recommended implementation indicators, but also a list of actions that will allow all stakeholders to monitor and evaluate the implementation of the strategy.

Guide to the observation of rural heritage (CEMAT, Ljubljana, September 2003) which contributes to the implementation of the Recommendations of the Ministers responsible for stimulating the development of rural areas both as human settlements with economic and recreational activities and as natural environments. The document aims to establish an urban-rural balance and to promote the resources of the rural world as factors of development. The rural environment is addressed as spaces with economic and recreational activities, but also as physical regions, and also provides guidelines for regional/spatial planning for the management of this heritage.

The *Leipzig Charter on Sustainable European Cities* (2007) which sets out common principles and strategies for urban development policy, recommending, and in particular the wider use of integrated urban development approaches and paying special attention to deprived districts in the context of a city as a whole.

The *European Strategy for the Danube Region* (EUSDR), adopted by the European Commission in 2011, is the document that defines the essence of regional development in the Danube region. The four priority axes of the EU Strategy are: connectivity (inter-modal transport, culture and tourism, energy networks), environmental protection (water resources management, biodiversity and risk management), creating prosperity in the Danube region (education, research, competitiveness) and improved governance (institutional capacity and internal security).

The *strategy and diagnostic analysis* carried out with the support of specialists from the World Bank in 2013 was a technical assistance to the Romanian Government to develop a strategy for the Danube Delta and its surrounding areas. The diagnostic analysis was complemented by the conclusions of public consultations with local residents and stakeholders.

Integrated Sustainable Development Strategy for the Danube Delta (2014). The Romanian Government - through the Ministry of Development, Public Works and Administration - asked the World Bank to provide consultancy services with the aim of developing an integrated sustainable strategy for the Danube Delta and identifying action plans for the implementation of such a strategy. This includes 4 scenarios of economic and social development of the localities.

The *Danube Transnational Programme* (2014-2020), which supported integration policy at the level of the Danube region and in specific areas under the Common Provisions Regulation/European Regional Development Fund in relation to the European Union Strategy for the Danube Region.

Subsequently, the *Local Development Strategies* (2012-2017) were added, which were elaborated at the level of the municipalities on the Danube Delta territory within the Delta Regio Plan project. It is also worth mentioning the *Strategy developed through the partnership "Danube Delta Local Action Group"* (2017) for 7 administrative-territorial units: the city of Sulina and 6 communes: Nufăru, Beștepe, Mahmudia, Murighiol, Valea Nucarilor, Sfântu Gheorghe, all located in Tulcea county. In addition to these, numerous books and articles have been published, as well as doctoral theses that have attempted to evaluate and analyse details of the natural and anthropic environment of the Danube Delta.

Therefore, at the basis of this approach to the history of tourism in the Danube Delta was an extensive bibliographical documentation, a statistical and analytical interpretation to highlight the characteristics of tourism in this Romanian territory. The trips made by the authors in recent years have allowed them to get to know the realities on the field. The participation as collaborators and authors of studies on the development of tourism in the Danube Delta was important in order to make a synthesis of the relevant statistical data related to tourism. A double challenge for the sustainable development of the Danube Delta is the preservation of its natural heritage elements and the improvement of the quality of life for its inhabitants.

3 RESULTS

3.1 Brief history of economic development and tourism in the Danube Delta

Throughout the historical periods, the Romanian delta area has undergone many transformations due to the way of life and settlement. These territories are part of the historical province of Dobrogea. Archaeological research in the Danube Delta confirms the presence of people in this area, which from antiquity to modern times was the connecting node of major traffic axes through which the local population had permanent contact with much more advanced civilizations. (Romanescu, 2013)

The earliest evidence dates from the Greco-Roman era. Numerous ancient sources have provided some descriptions of this geographical area. The main types of economic activities identified in the area are those related to fishing, agriculture and crafts, trade. (Bosneagu, 2015)

In ancient times, the mouth of the Danube was part of the province of Lower Moesia, the region of Scythia Minor. The Greeks founded the first settlements in the form of colonies - Aegyssos (Tulcea), Axiopolis (Cernavodă).

After the Roman retreat in the 3rd century AD (271-275), from the 3rd-4th centuries AD, barbarian invasions followed, with further ethnic and political changes in the territory between the Danube and the Black Sea. At the dawn of the Middle Ages, Dobrogea was either under Byzantine (provincial Paristrion) or Bulgarian rule, depending on how the political and military situation in the Balkans evolved.

Around the 9th-10th centuries, Dobrogea gained a partially independent status, with several small Slavic, Bulgarian and Romanian state formations being established here. In 1420, Sultan Mehmed I conquered Dobrogea, leaving Wallachia with only the Danube Delta, but not for long. As a marginal territory for the Ottomans, the area declined in terms of civilisation and culture, becoming a region of shepherds and fishing villages.

For many centuries the activity of the settlements in the Danube Delta was focused on agriculture, fishing, crafts and trade. Between the 16th and 18th centuries, large quantities of agricultural products, wood and iron from the interior of Dobrogea were regularly sent to Istanbul via the Danube ports of Măcin, Isaccea, Tulcea, Chilia (Chilia Nouă), Beștepea Turcă (Mahmudia) and the Black Sea ports.

The diaries of foreign travellers who passed through the communities and towns of the Delta between the 16th and 18th centuries describe the great abundance of fish, particularly sturgeon, and the wealth of roe, much in demand from Greece to Poland, Russia, Austria, Germany and Denmark.

In addition, the large number of water mills on the Danube and the six-winged windmill on the Sulina arm were mentioned. The Romanians, the majority inhabitants of the delta, along with the other ethnic groups, practised fishing, agriculture, various crafts and animal breeding.

The 19th century found south-eastern Europe in a fierce struggle for power between three great empires - the Habsburg Empire, the rising Tsarist Empire and the Ottoman Empire, in the depths of a political and economic crisis. As such, Dobrogea became the scene of military operations that completed successive stages of the long-running Russo-Austrian-Turkish conflict, known in history as the "Eastern Crisis". Between 1806 and 1812 the Russo-Turkish War took place, which resulted in the border between Russia and the Ottoman Empire becoming the Chilia Branch. (Iordachi, Van Assche, 2014)

The 1829 Peace Treaty of Adrianople was concluded after the Russo-Turkish War of 1828-1829 between the Russian and Ottoman Empires. With this treaty, the Ottoman Empire gave Russia access to the mouths of the Danube and opened the Dardanelles and Bosphorus Straits to all trading vessels, thus liberalising trade in grain, live animals and timber. For the Romanian Principalities, the boundary between the Ottoman Empire and Wallachia was set on the Danube.

As a result of this treaty, both Austria and Russia gain freedom of navigation on the Danube, the Black Sea and in the port cities at the mouths of the Danube. The European Commission of the Danube - C.E.D. (1856) was established, which led to the development of navigation between Isaccea and Sulina. The ports of Tulcea and Sulina are developed.

In the port of Sulina, at that time, there were 17 fleets in the city, which could transport goods free of charge, being a seaport free of taxes and duties. Later on, the Commodity Exchange and the Grain Stock Exchange were established.

Most of the settlements in the Danube Delta are new settlements (19th century) that were built on top of some older settlements, most of them with Turkish and Romanian names. Some population movements have led to the foundation of new settlements or to changes in the ethnic profile of some areas.

The departure of the Turkish inhabitants after 1829 was largely replaced by Romanians who came here from southern Moldavia and Bessarabia. Later, the Romanians migrated to the urban centres of Tulcea, Măcin, Babadag where they populated the neighbourhoods with the names of the localities they came from. The villages that were left behind are gradually repopulated by Ukrainians and Russian-Lipovians, Bulgarians. In general, new rural settlements are formed along the river branches, especially on the Sulina and Chilia branches.

After the 1859 Union of the Romanian Principalities they were still under the Ottoman Empire. Basically, over time, the Russians and Ottomans withdrew the borders as they wished, the aim being to obtain for themselves the most attractive of the territories inhabited by Romanians. The Tsarist Empire's 1875 plan aimed at occupying and annexing the southern Danube region, i.e. Southern Bessarabia, Dobrogea, Eastern Bulgaria with Adrianopolis. (Iordachi, 2002)

The United Romanian Principalities took part in the Russo-Turkish War between 1877 and 1878 and Romanian troops were prominent in the tough battles in the Balkans. Eventually, the Ottoman Empire lost the war and the Peace of San Stefano was signed between the Russians and Turks. With this peace, the Turks were obliged to recognise the independence of Romania, Serbia, Montenegro and also the autonomy of Bulgaria. At the same time, in the first form of the treaty, Dobrogea was given to Russia.

Following the Congress of Berlin in 1878, the Tsarist Empire offered Dobrogea to Romania and took in exchange three counties in southern Bessarabia - Cahul, Ismail and Bolgrad, which remained under Romanian rule. Immediately after the return of Dobrogea to the Romanian Principalities, its integration into the Romanian administrative system began again. The Ottoman tax was abolished and the Romanian tax system was introduced.

Throughout this historical period from the Middle Ages to the 19th century there was no organized tourism. Occasional trips were made by people from neighbouring counties who were interested in fishing and stayed in local houses for a few days. In the large towns, there was a travelling trade in fish products, with the advantage that they came to the buyer's door and also sold on a subscription basis. In the inter-war period, Vâlcov, a town on Chilia, on the northern arm of the Danube, founded by the Russian-lipovians in 1746, was the only place in Europe where black roe was available, a trade operated by Greek merchants.

The Union of 1918 only partially completed the territory of the country. After the First World War, on 18 January 1919, following the Paris Peace Conference, Romania definitively regained Dobrogea and the Delta, but the Cadrlater was given to Bulgaria after 1945. After 1948, the new communist regime in Romania,

which had become a republic from a monarchy, led to important changes to the geographical areas of the Danube Delta.

After 1950, the great collectivisation began in the Delta as in the rest of Romania. The little land was confiscated and fishing became the main industry of the Delta. Fishermen's boats and fishing tools were nationalised and they became employees of the state-established fisheries departments.

One of the most significant changes was the extension of the network of artificial canals within the delta, (the length doubled from 1910 to 1990, totalling 3400 km today). Wetlands have been transformed into farmland and fish ponds. By 1990 one quarter of the Danube Delta (974 sq km) had been dammed, including 400 sq km for agricultural purposes.

Sf. Gheorghe, the 109 km-long southern arm of the river is not navigable and its meanders were cut in the 1960s, reducing its length by 50 km. In the Razim-Sinoe fluvio-marine coastal area 23500 ha have been dammed. At the same time, attempts were made to exploit the Delta's resources to the full. The first major investment was in the industrial exploitation of reeds for pulp, but without any great results.

After 1960, massive dewatering of important areas of the Danube Delta began. Thus, in the Sireasa area 70 lakes were drained and in Pardina 130. Four dyked and drained areas called polders were formed: Sireasa (5480 ha), Pardina (27032 ha), Carasuhat (2863 ha) and Dunăvăţ-Murighiol (2536 ha). Since 1970 the Romanian communist government has established a state enterprise in Sf. Gheorghe producing and exporting black roe. After 2007, due to overfishing and the lack of a proper environmental protection policy, sturgeon in the Danube have become rare, some species have already disappeared and the Romanian government has imposed a fishing ban that has been in place for 15 years.

On 28 March 1983, the "Programme for the integral development and exploitation of the Danube Delta" was launched. It was the third stage of measures designed to increase the exploitation of the delta's resources. It was envisaged that agriculture would become one of the main activities, until arable land was maximised. Along with these exploitations, many workers were brought to the Delta from all parts of the country. (Damian, 2016)

Fortunately, the 1989 revolution put a stop to these plans, which could only lead to the destruction of the Danube Delta. During this time, the Russian-Lypovian and Hasholian communities began to Romanianize, remaining as a compact minority ethnic group in Mila 23, Caraorman, Sf. Gheorghe, etc., closed communities that gravitated around the local churches.

During the communist regime (1948-1989), important areas of the Danube Delta were used for tourism. There were up to 100,000 tourists a year, most of whom stayed at the two hotels on the Sulina canal; many of the tourists camped during the summer. The development of tourism in the delta area accelerated after 1990. (Lazar et al., 2022)

4 DISCUSSION

4.1 Evaluation of the development of tourism in the Danube Delta in the period 1989-2022

The development of tourism in the Danube Delta is an economic phenomenon with a late evolution due to historical causes. After 1960, several hotel constructions began to be built in the main towns of the Delta. This process accelerated after 1990. In the early years, in the absence of specific legislation for the development and protection of this delta area, many investments were made in tourism without taking into account the interests of the local population. The increase in traffic, the modernisation of the Danube Delta boat transport system and the increase in the speed of access to the Delta have led to the development of chaotic and uncontrolled tourism. (Gâştescu, Toma, 2019)

The tourism sector has had periods of boom and bust between 1989 and 2021. The statistical data collected over a period of 33 years show the evolution of this tourism but also the influences given by the evolution of Romanian society as a whole, the economic and legislative environment which have also created some less positive aspects at local level. (Dima, Burlacu, Buzoianu, 2020)

Statistical indicators on tourist accommodation units and places indicate an increasing trend from 24 units in 1989 to 427 units in 2022. (Figure 2)

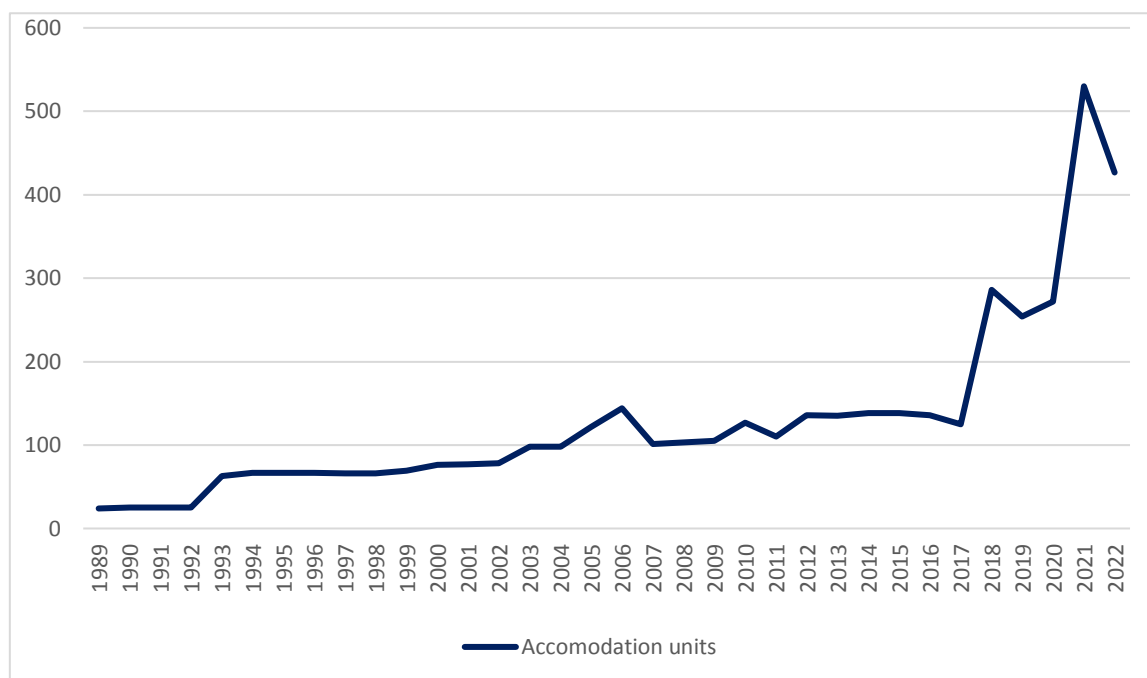


Figure 2. The evolution of tourist accommodation units between 2008-2022 (www.insse.ro)

There is a fluctuation in the number of units and places from one year to the next. Compared to the number in Romania, their proportion is very small, generally less than 1%. After the year 2000, the phenomenon of tourism development in new investments in accommodation establishments associated with catering establishments is increasing every year. The highest values occur after 2017 and continue in the period of pandemic with Corona virus 19. The degree of distancing of localities and isolation have allowed the continuation of construction for tourism, with few local resources, most transported by river canals.

For the period 2008-2022, in terms of the structure of accommodation units, hotels and tourist villas dominate at the expense of local tourist guesthouses and some rooms for rent in residents' houses. Most of the guesthouses are in new buildings built after 2000 and not in residents' houses. Before 2008 only hotels dominated and very few other types of tourist accommodation.

Most tourist accommodation is concentrated in the towns of Sulina, Tulcea, and the communes of Mila 23, Crişan, Jurilovca, Sf. Gheorghe, Uzlina, Sarichioi, Mahmudia, Chilia, Caraorman, Dunavăţu de Jos and Dunavăţu de Sus, represented by guesthouses, holiday homes, tourist villas and a few hotels. (Mazilu, Andrei, Gheorgheci, 2016)

The occupancy rate indicator is low and has an oscillating evolution. In addition, during most of the period analysed it is on average below 30%, with low profitability from a tourism point of view. This aspect is also due to the evolution of the weather during the summer season. In spring and autumn tourist traffic is low, most intense in June-July and August, much lower in May and September. The occupancy rate is 20% lower than national values.

The indicators of tourist circulation show an oscillating development due to legislative, economic and local policy reasons, but also to environmental reasons. The number of tourist arrivals for the period 1989-2021 was high in the years 1989-1990 at around 140800 tourists but had halved by 2017. As of 2018 there is an increase to over 165000 in 2018-2019, with a decrease during the pandemic period. The same phenomenon is true for the number of overnight stays.

On the basis of statistical data available, of the total tourist arrivals in the Danube Delta, foreign tourists represent between 10-30%. Values of over 15% were recorded in 1990, 1991, 1994, 1998, 1999, 2002. Values above 20% in 2003, 2004, 2005, 2006, 2007, 2009, 2010, 2011, 2013, 2014, 2015, 2016, 2017. The highest value of over 35, 28% in 2012 and the lowest value of 4.34% in 2021. Similar values are also for the number of tourist overnight stays.

The indicator for the length of stay shows that it is very short of only 2.0-2.5 days for a tourist, which shows that the income obtained is low. But it also shows that tourists are interested in fishing, eating fish and having fun. Few Romanian tourists are interested in what is protected nature with its flora and fauna species. Foreign tourists are most interested in nature.

The evolution of tourist circulation is influenced by dry and rainy years. Dry weather with little rain and clear weather supports a more active tourist movement. This is noticeable for the years 2000, 2001, 2002,

2003, 2006, 2007, 2009, 2011, 2018, 2019. In rainy years, the increased flow of the Danube River also causes flooding in many villages in the Danube Delta and tourists avoid travel. (Figure 3)

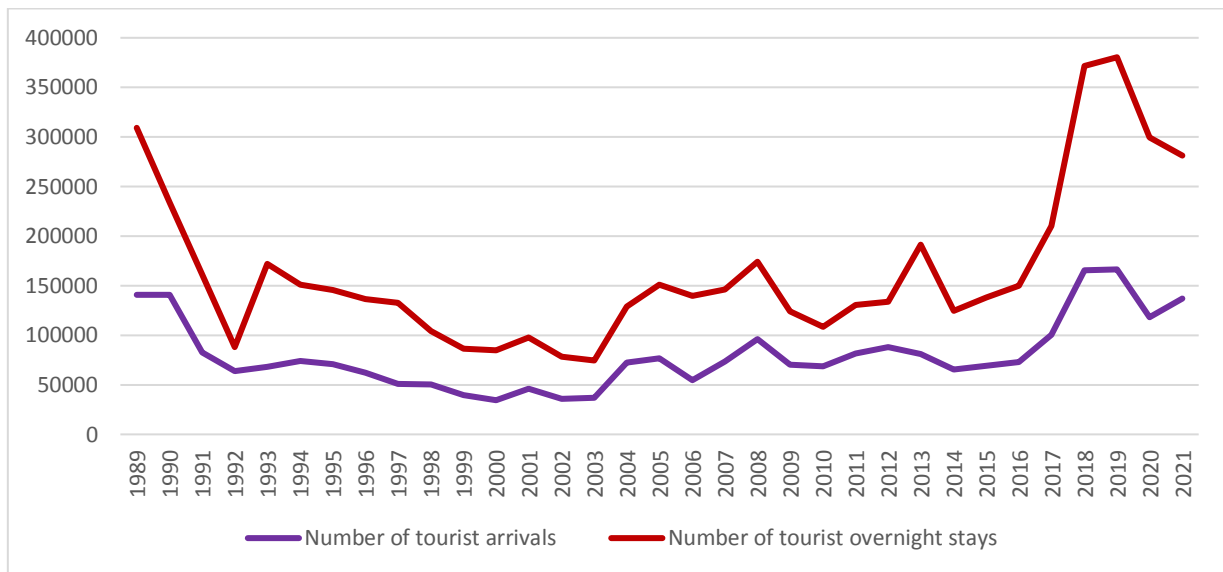


Figure 3. The evolution of tourist circulation in the Danube Delta between 1998-2021 (www.insse.ro)

Another influencing factor is periods of economic crisis. During the 33 years, Romania has experienced the periods 1990-1994, 1997-2000, 2008-2011, 2021-2023 which have led to limited tourism activities at national level but also in the Danube Delta.

Tourism in this delta area has an uneven development being concentrated in a few urban and rural localities. At the top of the hierarchy are the towns of Sulina and Tulcea, followed by the communes of Mila 23, Crişan, Jurilovca, Mahmudia, Murighiol, Caraorman, Chilia, Sarichioi, Uzlina. The three tourist information centres in Tulcea, Crişan village and Sulina are not open from morning to evening even in summer. (Figure 4)

This study is relevant to thinking about economic development strategies, with a particular focus on tourism, in the context of sustainable development. This study will continue, as the subject is of great interest for tourism, environment and ecology. Wetlands and protected natural areas are attractive from a tourism point of view, but also delicate in terms of economic value. The sustainable exploitation of this natural tourism potential must be based forward on a smart and resilient model.

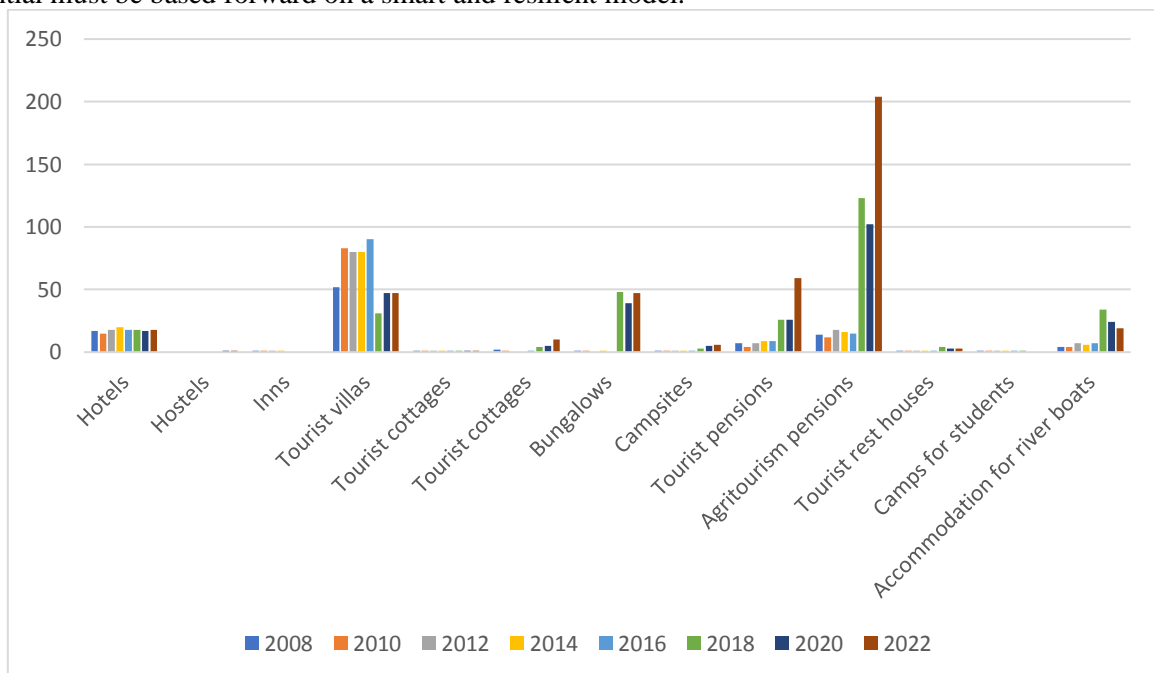


Figure 4. Structure of tourist accommodation units in the Danube Delta between 2008-2022 (www.insse.ro)

5 CONCLUSION

Based on all this research performed, it appears that tourism in the Danube Delta has certain characteristics of its own. These are also given by the status of UNESCO Biosphere Reserve. Some conclusions were also derived:

- the whole Danube Delta region was and is linked to the historical province of Dobrogea with great political and military instability. This aspect prevented a continuous economic development and stability of human settlements; (Sima, 2014)
- the Danube Delta has many types of natural and cultural landscapes that should be exploited together, the emphasis is on the natural environment and fishing;
- firstly, the level of sensitivity of natural resources and the variety of the regime guiding activities in the delta limits the possibility of large-scale development. Secondly, the demand trend is shifting towards destinations with small-scale accommodation facilities, local character (to the detriment of large resorts), interaction with nature and local people, and experiences associated with local cuisine and traditions.
- the number of cultural events has increased exponentially in recent years, and museums, workshops and local village fairs have emerged as villages in the delta have tried to compete for the growing markets of tourists looking for exclusively nature-oriented tourism;
- in urban and rural settlements in the Danube Delta, many houses and land confiscated during the communist period were restituted between 1991 and 1995, but many locals sold them cheaply to investors who did not know how to respect world reserve status;
- in the last 25 years, many villas and holiday homes and guesthouses have been built in many places in the Danube Delta, most of which do not respect the local architecture;
- there is a decline in fish populations and a decrease in the diversity of fisheries and birds; a ban on sturgeons has been adopted; (Gómez-Baggethun et. al., 2019)
- a very topical issue is the inadequate and inefficient management of waste in the Danube Delta and the concentration of tourist flows, as well as the continuation of the ecological reconstruction of areas that have been subject to land development and landscape modification in the Delta, especially during the communist period;
- anthropogenic impacts on natural habitats, including those related to the development of tourism infrastructure, initiated by many municipalities that want to invest mainly in hotels or the establishment of tourist resorts;
- local rowing boat transport has almost completely disappeared. Modern boats (300-350 horsepower) travelling at speed are everywhere. Recently in 2015 a law was given to track sailing trails and reduce speed of motor boats, but hardly enforced;
- all statistics show a continuous increase of tourist accommodation units, when this phenomenon should be reduced in favour of accommodation in traditional houses of the inhabitants;
- tourist traffic and length of stay show that there is weekend tourism rather than longer-stay tourism; this type of tourism is aggressive towards nature and unprofitable for the local population;
- tourism has developed chaotically and with a tendency to imitate tourism in other rural areas. Some associations, such as the *Ivan Patzaichin Association - Mile 23*, which was founded in 2010, have started to show the locals how to do ecotourism; (Andrei, Lianu, Gudei, 2016)
- a first step for ecotourism was made through the Ecotourism Platform in Crişan commune was financed by EEA and Norwegian grants from 2009-2014, within the NGO Fund in Romania;
- in many localities, where the younger generation is present, an attempt is being made to recover ethnographic traditions through festivals and local celebrations, especially for tourists, but many crafts should also be revived; (Teodorescu et.al., 2020)
- some positive and negative aspects of delta tourism were pointed out during the meetings between the representatives of the Tulcea County Council and the Association for the Management of the Danube Delta Tourism Destination; an example is the large number of jackals, the existence of many blocked secondary canals, speedboats still travelling at high speeds, uncontrolled urbanism;
- tourism is an activity that deserves better support from the government and local public authorities; by reducing taxes and duties on local businesses, for the transport of goods and building materials, repairs.
- more attention should also be paid to preserving cultural landscapes, as their disappearance leads to the loss of fishing villages; many localities with less than 10% of a reserve on their territory should be

removed from town planning regulations, which is unacceptable if traditional, delta-specific landscapes are to be preserved;

- the tourist management of the delta, the preservation of the balance of the Danube Delta, is in the hands of the locals, so it is important that they preserve their identity and at the same time have a decent income. (Sbarcea, Petrișor, Petrișor, 2019)

From all the analysis conducted, it appears that tourism has developed chaotically over the last two decades and poses an increasing threat to the biodiversity of the Delta, and this trend continues to accelerate. Local communities do not benefit from tourism development, but feel ignored by the investments made by entrepreneurs. The Delta's natural resources must be an important source of income for its inhabitants.

Local communities know best how to respect deltaic values and participate in biodiversity conservation. Due to the low standard of living and lack of effective regulations, the inhabitants of the Danube Delta neglect the importance of heritage and environmental conservation. All efforts should be directed towards minimising the adverse impact of both tourism practices and activity in order to support the stability of the localities, social and demographic sustainability and the viability of tourism.

Ecotourism is an increasingly popular form of tourism and requires a careful approach to biodiversity conservation and nature protection. Therefore, this study is important in assessing the impact of tourism activity in the Danube Delta Biosphere Reserve and will be continued. Also, this study can be the basis for other research in the field and can generate other lines of research, being a topical issue with interesting implications for the future.

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