

## **The Beach Extention Project in Mamaia Resort, on the Romanian Black Sea Coast: Certain Benefits, but also Numerous Tourist Complaints**

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### **Abstract**

*Tourism is one of the most important "industries" in the world, both in terms of its contribution to GDP and also job creation.*

*In many areas and countries of the world, seaside tourism has been developing rapidly in the last decades and, for many countries, it represents a very important economic activity.*

*The coastal areas are facing more or less severe effects of the coastal erosion. Significant beach areas disappear annually, under the influence of natural and anthropogenic factors. Therefore, actions to restore, protect and expand the beaches are needed.*

*In Romania, there is an ongoing development on widening the beaches, but, although those works are urgently needed, there are many tourist dissatisfactions regarding the exaggerated width of the newly extended beaches, the quality of the sand, etc.*

*The purpose of this paper is to raise awareness on finding a correct balance between coastal erosion protection works and tourism demands.*

**Key words:** extention of the tourist beach, fighting coastal erosion, tourist dissatisfaction, Mamaia tourist resort, Romania

**J.E.L. classification:** D73, L83, L78, P28, Q24, Q25, Q54, Q57, Z32

### **1. Introduction**

The Romanian Black Sea coast stretches over 245 km, from Gurile Dunării (Danube Mouths), in the North, to the Bulgarian border, in the South. The Southern sector, the tourist one, of the Romanian seaside, where the resorts and tourist destinations are, is 82 km long, being situated between Capul Midia (Cape Midia), in the North and Vama Veche, in the South, and located between the 44th parallel 25' and the 43th parallel 25' North latitude, on the same geographical coordinates as other famous tourist destinations in Southwestern Europe, such as: San Remo, San Marino, Monaco, Rimini (Jugănaru, 2004, p.54).

Mamaia is the largest of all the tourist resorts on the Romanian coast, with an accommodation capacity, on July 31, 2020 of 20,571 places, in 92 units (tourist reception structures with tourist accommodation functions, mostly hotels). From an administrative point of view, Mamaia belongs to Constanța municipality, the county seat bearing the same name. Furthermore, Mamaia is the oldest tourist resort on the Romanian coast, being established 115 years ago (Jugănaru, 2020, p.705), and considered the "Pearl" of the Romanian coast.

Coastal erosion has greatly affected, in the last decades, the tourist beaches on the Romanian coast, the width of the beaches being reduced, in some places even until their total disappearance, the sea water reaching the first buildings of the resort, as was the case in the Eforie North resort. However, the situation has been different, in terms of the width of the beaches, from one resort or tourist destination to another.

The first phase of this project aimed at reducing the coastal erosion on the Romanian seaside began in the year 2016, 5 beach areas from the Mamaia resort (the Southern area), in Constanța and Eforie North being set up (widened) with the help of dredged and pumped sand from the open

Black Sea. The cumulative length of the extended beaches is about 7.3 km, these beaches being extended with an area of 60.66 hectares (N.A.R.W., 2020a).

In Mamaia resort, the works to widen the beaches in the Northern part of the resort were completed in May 2021, the widest beaches being set up here; in some areas, the new beaches reach widths of up to 240-250 m or even over 300 m (the distance between the limit of the Black Sea water and the limit of the resort). In these areas, the tourists' access to the sea water is quite difficult, both due to the long distance they have to cover, and to the fact that the sand with which the sanding works were done on the new beach surfaces has a higher granularity and a lot of seashells, which makes it difficult and even dangerous to walk on the beach without protective footwear. For this reason, a large number of tourists avoid staying in this area of the resort.

## 2. Literature review

The erosion of the beaches and seafronts is a natural phenomenon. However, frequently the causes are also anthropogenic, as a result of various hydrographic arrangements, such as the construction of dams.

Beach nourishment is the process of adding sediments to a beach affected by erosion, in order to prevent sediment loss on a beach affected by erosion, preventing the future loss of sediments, caused by various factors.

Beach nourishment has been used primarily for the benefit of the tourism industry, due to the relatively low costs of the landscaping works and periodic maintenance. Moreover, the benefits of such projects are also referring to the reduction of the risks caused by the storms to the properties located on the shore, on the seafront, as well as the recreational benefits of a wider beach (Philips and Jones, 2006).

The sandy sediments used for the restoration and extension of the beaches can come either from sand deposits found on the surface (such as sand dunes or abandoned beaches), or from submarine sand deposits, from where the sand is dredged and pushed hydraulically to the beach (Benedet et al., 2007, p. 12).

Within the national policies on reducing the effects of coastal erosion, at the moment, the "soft" approaches of the landscaping works are more and more frequent, by studying and carrying out defense systems with a lower environmental impact. These include: (i) beach nourishment; (ii) innovative systems (dune protection features, Beach Drainage Systems), meant to reduce the erosion of beaches and seafronts (Damiani, et al., 2011; Saporieri and Damiani, 2015); (iii) submerged structures, intended to partially reduce the impact of erosion.

In the specialized literature there is an important number of studies on the analysis of the history of these phenomena, and also predictions on how coastal erosion will evolve. Many of these studies assess the environmental impact, but also the economic one, on a continental or even global level.

More and more recent studies are analyzing the effects of storms on beaches, for example, in Europe (Karunarithna et al., 2014; Eichtoph et al., 2019).

Depending on the type of sediment, beaches give different responses to the storms' actions. In the study of coastal area problems, the sequences in which storms occur are very important and have begun to be studied more. Most of the studies concluded that there is no consensus on how they respond to a succession of storms, which is not surprising, given the complexity of the factors which influence the evolution of the beaches (Eichtoph et al., 2019a).

Beaches have a special value for the tourism industry, which is why their protection is vital. Protecting and restoring beaches is a challenge for both engineers and coastal managers (Alexandrakis et al., 2015, p.7).

The effects of the coastal erosion phenomenon are the destruction of certain tourist infrastructures, higher costs of their insurance against the action of natural factors, but also the decrease in competitiveness of some coastal areas compared to the other areas they are competing against on the tourist market, leading to a decrease in the number of tourists, the turnover, etc. (Alexandrakis et al., 2015, p. 10).

Within a Supply of Services Agreement signed between the Directorate General of the European Commission and the National Institute for Coastal and Marine Management of the Netherlands (European Commission, 2004), 60 case studies were analyzed so as to discover

common success strategies in order to manage the effects of erosion. Among these case studies, two from the Western part of the Black Sea - one from Mamaia, Romania, and the other one from Shabla-Krapetz, Bulgaria - were presented (European Commission, 2004).

### **3. Research methodology**

This paper has been produced by combining several types of research methods. In order to bring to attention the theoretical approaches of the studies on the causes and effects of coastal erosion, as well as the papers produced on how to fight this phenomenon and to restore and consolidate the beaches and seafronts of the Romanian Black Sea coast, we have used the desk research aimed at collecting secondary, quantitative information from the specialized literature.

Another quantitative, cross-sectional desk research is represented by the collection and interpretation of statistical data published by the National Institute of Statistics and the data provided, upon request, by the Constanța County Directorate of Statistics, on the evolution of Mamaia tourist resort and the situation on the Romanian Black Sea coast (Jugănaru, 1998, pp.15-17; 23-25; 29-30). Furthermore, another research method used in this study is the focus group (Jupp, 2010, pp. 209-210), which has allowed us to collect direct, quantitative and qualitative information from the owners and the managers of certain tourist reception units, with tourist accommodation functions, from Mamaia, beach operators and travel agents who sell tourist offers having Mamaia as destination.

### **4. Findings**

#### **4.1. Presentation and evolution of Mamaia tourist resort, Romania**

Mamaia tourist resort was inaugurated in the year 1906, when the first balneary establishment opened - two wooden pavilions and their annexes (Jugănaru, 2004, Annex 5, pp. IV-V).

Professor Ion Bănescu, mayor of Constanța during 1905-1907, is considered the founder of Mamaia resort, as he insisted a great deal, within the Communal Council, on approving this project in 1905, and he took care of the leasing procedures for a 192-ha area of land, located in the North of Constanța, between Lake Siutghiol and the Black Sea, from Capul Singol (in the Pescărie area) and the tail of the lake (in the Hanul Piraților area). The area was parceled out and soon enough willing people (personalities from the country, but also wealthier locals) appeared and bought 130 plots there (Hapurnea, 2013).

Constanța had been recognized as a "balneary resort" since the year 1892 and had been operating on the basis of a "Regulation" drafted by the then mayor (Mihail Coiciu) and approved by the Ministry of Interior (Păuleanu, 206, p.188).

However, the works to expand the port of Constanța (which started in 1889), towards the South, made it impossible to preserve the "Băile de la Vii" beach, one of the most frequented beaches by the people of Constanța, but also by the tourists. The temptation for more and more Romanians (especially those coming from Bucharest) to reach Constanța was increasing, from one year to another (Jugănaru, 2007, pp. 352-353).

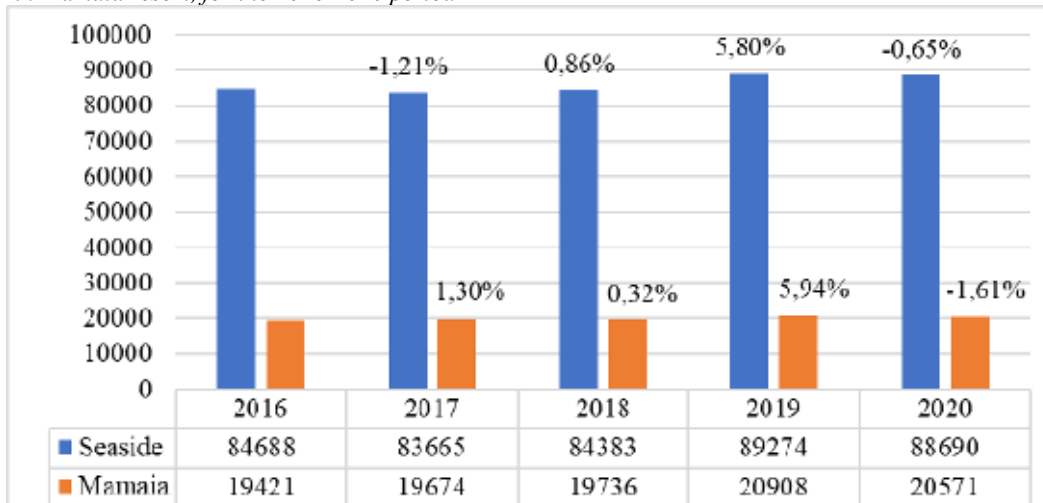
The issue of finding another solution, i.e., setting up another beach for the city of Constanța to develop as a balneary resort, was becoming more and more pressing. There had been many discussions and debates on this subject for about 10 years. The place where the new beach would be set up had to, on the one hand, be close enough to the city, have a generous area so as to be able to develop in time, and, on the other hand, have spaces of accommodation that would allow tourists, especially those with children, to spend the whole day there (Jugănaru M., 2020, p. 704).

Since the beginning of its activity, Mamaia has created for itself an image of an exclusive, expensive beach /resort, accessible only to certain segments of tourists, a luxury beach (Jugănaru and Jugănaru, 2019, p. 513).

Figure No. 1 shows the evolution of the total tourist accommodation capacity in the coastal area of Romania, as well as the evolution of this indicator in the case of the Mamaia tourist resort. One can observe a positive evolution of the tourist accommodation capacity of Mamaia resort, in the 2016-2019 period and its decrease by 1.61%, in 2020, compared to 2019, due to the restrictions in

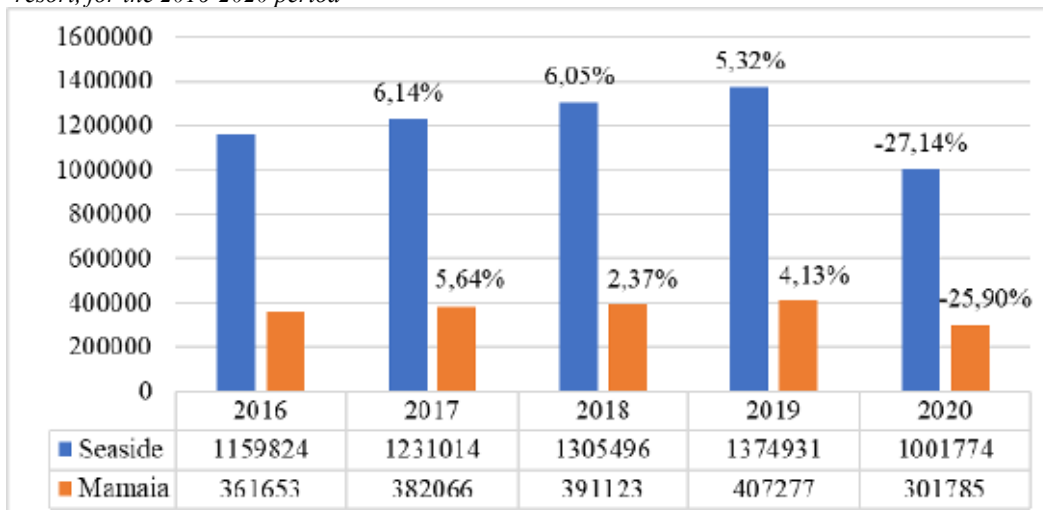
the context of the COVID-19 pandemic, which started in 2020. While in the year 2017, on the entire coastal area there was a 1.21% decrease in accommodation capacity, during the same year, in Mamaia, the accommodation capacity increased by 1.3%, compared to the year 2016.

Figure no. 1: The comparative evolution of tourist accommodation capacity on the Romanian seaside and in Mamaia resort, for the 2016-2020 period



Source: Author's own processing of the data obtained from the Constanta County Directorate of Statistics

Figure no. 2: The comparative evolution of tourist arrivals on the Romanian seaside and in Mamaia resort, for the 2016-2020 period



Source: Author's own processing of the data obtained from the Constanta County Directorate of Statistics

The comparative evolution of the results registered by the entire coast and by the Mamaia resort, in the 2016-2020 period, regarding the indicator "number of tourist arrivals" is presented in Figure No. 2. We can notice that the decrease in the number of tourist arrivals in the year 2020, compared to 2019, was smaller in Mamaia resort (-25.9%), compared to the decrease registered on the entire coastal area (-27.15%).

These data were obtained by processing the information received from the annual situations communicated by the Constanța County Directorate of Statistics, entitled "Tourist accommodation capacity and its use by localities in the year ...", regarding Constanța County, by removing the information about the non-coastal localities from the County.

#### **4.2. The beach extension works in Mamaia tourist resort - advantages, but also tourist dissatisfactions**

The works to extend the beaches on the Romanian coast are not only beneficial and have been long awaited by hoteliers and tourists, but were absolutely necessary, given that in some areas, due to erosion, the beaches had become much narrower, being close to disappearing completely.

##### **The coastal erosion of the Romanian seaside**

The beaches in Mamaia resort are made of sandy material brought by the Danube River (alluvial segments) and biogenic shell sediments. The sand is fine and has a light gray color.

In recent decades, erosion has affected the entire Mamaia resort, causing it to lose many hectares of beach. The erosion processes are more intense during winter, when storms are more frequent and stronger; storms led to sediment deficits on the beaches and damaged certain tourist facilities. The decrease in sediments in the Black Sea, to the South of the Danube Delta, has as main cause the dams built on the Danube River, which prevent the transport of the sedimentary material to the Black Sea (EuroSION, 2004, p. 7).

After the dam extension works for the widening of the commercial port of Midia (a 5 km dam, located in the North of Mamaia), the beach in Mamaia registered sediment accumulations in its Northern part and a strong erosion in its Southern part. In the winter of the year 1988, the Southern part of the beach was severely destroyed. The shoreline retreated by up to 59 m, between the year 1966 and the year 1988, and the beach area eroded by 88,900 square meters. Urgent measures were needed to protect the beaches, including longshore breakwaters and artificial sanding works. After the implementation of this protection measures' scheme, the shoreline continued to retreat, with up to 35 m and sediment accumulations of no more than 15 m, in the 1978-1995 period (EuroSION, p. 10).

In Mamaia, coastal erosion is a particular issue, the main cause being the construction of the dam for the extension of the commercial port of Midia (harbor extension dike). This dam acts as a barrier to long shore currents running from North to South. Due to this dam, which diverts the longshore sediment drift offshore, to the South-East, Mamaia beach has been transformed into a bay, as a result of the almost total lack of sediment supply (EuroSION, 2004, p. 7).

In the year 1988, the beach was almost completely destroyed in the Southern part of Mamaia resort. At that time, urgent measures were taken, both "hard" and "soft", to reduce the effects of the waves on the beaches, during stormy weather periods.

The first concrete project for the rehabilitation and consolidation of the beaches and seafronts on the Romanian coast, after the year 1990, began in the autumn of 2003, with the tender for designating the builder for the pilot project for consolidating the beaches in the area of Venus resort, where the erosion phenomenon manifested the strongest (Juganaru, 2004, p. 212).

A study conducted by Dutch experts, within the project "Implementation of the EU Water Framework Directive and Integrated Coastal Zone Management in Romania", funded by the EU, highlighted both the causes and the concrete solutions for carrying out the works to fight erosion and restore the beaches. At that time, the estimated costs for carrying out these works were about 150 million Euros, which was considered a very high amount given the financing possibilities of Romania at that time (Juganaru, 2004, p. 2013).

##### **One of the largest works projects in Romania: "Reducing coastal erosion", Phase II (2014-2020)**

In a press release from November 2018, Dobrogea-Litoral Water Basin Administration (A.B.A. D.-L.) announced the signing of the financing contract for this project, having as objective the rehabilitation and protection of degraded beaches and seafronts, reducing the erosion process.

The project has a total value of 3,805,641,720.80 lei (approximately 800 million Euros), of which 85% are non-reimbursable funds from the European Union, within the "Large Infrastructure" Operational Programme (POIM) 2014-2020, Priority Axis 5 - Promoting climate change adaptation, risk prevention and management, Specific objective 5.1. Reduction of the effects and damages on the population caused by the natural phenomena associated with the main risks accentuated by the climatic changes, mainly from floods and coastal erosion.

This project is being implemented in the 2015-2023 period, the works in the second phase being carried out in the sectors: Mamaia Center and Mamaia North, Agigea, Eforie Center, Eforie South,

Costinesti, Mangalia (Olimp, Neptune, Jupiter-Venus, Saturn, Mangalia), 2 Mai, Tomis Port, up to Constanta Port, Balta Mangalia, Stavilar Periboina and Stavilar Edighiol. The aim of the project is to prevent coastal erosion, through specific actions to limit its negative effects on coastal areas and beaches, through rehabilitation and protection activities, including artificial sanding of existing beach areas, dams to stabilize the dredging seafronts, coastal structures connected or parallel to the shore, retaining walls, etc. (ABAD-L, 2018).

During the first phase of this project, sanding works were carried out in the area between Constanta and Mamaia, as well as in the tourist resort Eforie North, on 5 beach sectors. The cumulative length is about 7.3 km, and the area of the 5 beach sectors has been increased by 60.66 ha (NARW, 2020a).

On October 12, 2020, the National Administration “Romanian Waters” announced, through a press release, that the works have started within the second phase of the project, in a first stage the sanding works being carried out in Navodari and Mamaia, and stating that, following these works, the width of the beaches would increase to 100 m (NARW, 2020b). It is difficult to understand, in the absence of official explanations, the reason why, in the end, the width of the extended beaches exceeded, in some places, 200-250 m, even 300 m.

#### **The real reasons for tourists’ dissatisfaction with Mamaia resort, in the summer season 2021**

The main dissatisfaction of the tourists who come to Mamaia resort (more precisely, in the Northern half of it), in the summer season of 2021, lies in the exaggerated size of the beaches, which exceeds, in some places, 250 m in width and sometimes even 300 m.

Beyond the positive effect of protecting the beaches from coastal erosion, tourists staying in that area of the resort have some serious reasons for dissatisfaction. Thus, not only do they have to travel long distances from the entrance to the beach to the sea shore, but they will not be able to benefit from the usual facilities in the beach areas located near the sea water, because the beach operators did not receive permission, from the administrator of the beach (Dobrogea-Litoral Water Basin Administration -ABAD-L) to place sunbeds, umbrellas and beach-bars on the new, extended portion, near the sea shore. They had to be content with the exploitation, for tourist purposes, of the old locations on the existing beach before carrying out the extension works. The reason invoked by ABAD-L is that the new beach areas cannot be rented, for the time being, because they have not been tabulated yet, so they do not yet officially exist in the cadastral records. Moreover, this operation will last quite a long time, probably until next year. Meanwhile, tourists are forced to walk 200-300 m to the edge of the sea, where they do not find the necessary conditions (sunbeds, umbrellas, a bar where they can buy something to drink or eat), they do not have at their disposal toilets or showers and must sit on the sheet, towel or mattress that they bring themselves.

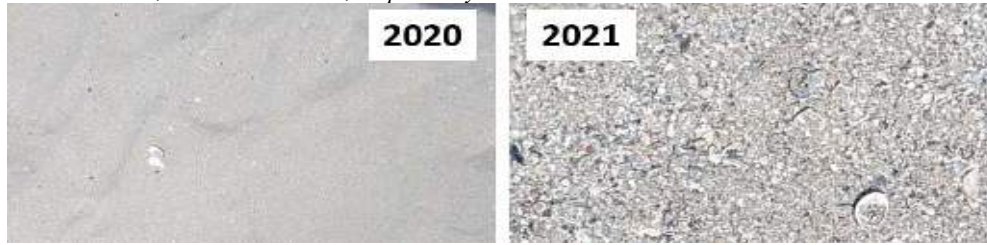
Another justified tourists’ dissatisfaction is the fact that the sand on the beach is less fine than the one that existed until this year, being covered with many shells, in which they may cut the soles of their feet at any time, when stepping on the beach (Figure No. 4).

*Figure no. 3. Comparative images of the width of the beaches located in the center of Mamaia resort, in 2020 and 2021, respectively*



Source: Author’s personal photographs

Figure No. 4. Comparative images of the rough quality of the sand of the beaches located in the center of Mamaia resort, in 2020 and 2021, respectively



Source: Author's personal photographs

Apart from the problems created by the extension of the beaches, there are other reasons for dissatisfaction, which negatively influence the situation of Mamaia resort in the 2021 summer season, other than those already mentioned. Of these, we consider the following to be the most important:

1). *The higher risk of drowning*, due to the great depth of the water, near the seashore. The beach in Mamaia was recognized and appreciated not only for the fine sand of the beach, but also because the entrance into the water was very smooth, the water having small depths even at distances of 100-150 m from the shore, and now there are portions where, only 10-20 m from the seashore line, where the beacons (buoys) are, the water depth suddenly increases, to over 2 m.

2). *The difficult access for ambulances* and first aid crews to the seashore, where tourists who need medical intervention can be found.

#### 4.3. Possible measures to improve the situation

We consider that at least some reasons for the dissatisfaction of the tourists (but also of tourism entrepreneurs in Mamaia) could and can be avoided through some measures, such as:

- planning the works for setting up / extending the beaches so that they could be completed on time, and the new beaches could be used by the tourists from this very season;
- carrying out discing works / loosening the sand on the new beaches and sifting it, with specialized equipment, so as to remove the seashells, at least in the areas near the sea water;
- better communication from the competent authorities (NARW, ABA D-L) so as not to surprise either the tourists, or the entrepreneurs and tourism managers facing these problems in the summer tourist season of 2021.

We also consider it imperative to speed up the cadastral and tabulation works for the new beach areas and the elaboration of the Zonal Urbanistic Plans for these areas, so that all the bureaucratic procedures are fulfilled, and the new areas can be concessioned to the beach operators by the beginning of the summer tourist season of 2022.

#### 5. Conclusions

In a post on its Facebook page from January 26, 2021, National Administration "Romanian Waters" informs that the Romanian coast will have, at the beginning of this summer, almost 53 ha of new beach, on a length of 6,950 linear meters, using for the sanding about 4.5 million cubic meters of sand (Agerpres, 2021). However, from a subsequent post, dated April 28, on the Facebook page of Dobrogea-Litoral Water Basin Administration, we find out that, although in the initial project, the beaches were to be extended by 53 ha, following the "optimization of the project", until that date (when the works were not yet completed), the beach area increased by 70 ha (ABA D-L, Facebook page). A public explanation on this subject from ABA D-L would have been necessary. In the absence of coherent explanations, from the competent authorities, the question from tourists, but also from hoteliers and other tourism entrepreneurs in Mamaia remains legitimate: from a scientific point of view, is such a large extension of beaches justified, or is it a mistake, given that there are so many inconveniences that have arisen since the completion of the extension of these parts of the beach, that only thorough convincing and credible explanations about the need to expand with such large beach areas can convince those affected by these works?

Hoteliers who have invested in tourist accommodation units located in the affected area are also worried and fear that all the bureaucratic legal procedures (the cadastre and tabulation of the new beach areas, the approval of a new Zonal Urbanistic Plan, the connection of beach bars and toilets to utilities - water, sewerage and electricity, etc.) will not be completed until the next season (2022), so that their tourists can benefit from sunbeds, umbrellas and beach bars on the new locations on the extended beach, near the seashore. Already, at the beginning of June 2021, a large number of tourists canceled their reservations for the summer of 2021 at the hotels in Mamaia located in the area of the recently expanded beaches, and large decreases in turnover for the accommodation, food units and for the beach operators in this area of the resort are expected.

And there is also the concern that the authorities will allow the construction of new hotels and restaurants on the existing beach prior to the works for its extension, so that new constructions would block the sea view of the existing hotels.

The Romanian Minister of Environment stated that, after the completion of the works, the reception and tabulation of the new portion of the beach, the Ministry of Environment, together with "Romanian Waters" will launch an international competition regarding urbanism and architecture solutions for setting up this portion (Agerpres, 2021b). It remains to be seen whether the respective solutions will be limited to the use of the new beach areas only for tourist leisure purposes or "hard" constructions, such as hotels, will be allowed.

In our opinion, it would be desirable not to accept the construction of new accommodation capacities for tourists, since, already at this time, Mamaia is a very crowded tourist resort, with few parking spaces, etc. It would rather be necessary, for example, to build some second-generation water parks (covered and heated) or, preferably, even third-generation (quasi-energy independent, using heating systems from unconventional energies). It would, thus, be possible to extend the tourist season on the Romanian coast, such water parks being able to operate throughout the year, not only during the summer.

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