The Relationship Tourism-Environment in the Romanian Danube Valley. Study of Case: Giurgiu – Calarasi Area.

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Abstract**—**The relationship tourism – environment is very dynamic and involves many changes on both sides. The tourism depends on the environment quality and landscapes that it offers. The environment offers the support, the unfolding frame for the tourist activity. This bi-univocal system determines the balance of relationship between the two elements: tourism and environment. The Giurgiu-Calarasi area is situated near from the Bucharest, and could be considered a nice and attractive touristic area. In the studied counties, in the localities along the river Danube, between Giurgiu and Calarasi there are different aspects of pollution, due to the unequal concentrations of polluters, as well as the different values exceeding the admitted actual norms The tourist activity influences very little the quality of water because the Danube area is not exploited in the true meaning of the tourist potential, and the Danube has a great capacity of self-cleaning, its waters falling in the 1st category of pollution. We cannot state that the degree of pollution does not influence the tourism. The degradation of the natural and anthropogenic environment leads to the decrease of the tourist value of the natural or anthropogenic landscapes, determining the decrease of the tourist interest for certain objectives, sometimes extremely valuable. The solution is to keep clean environment for a sustainable tourism.

Keywords**—** Danube Valley, economic activity, environment, pollution, tourism

I. INTRODUCTION

The Danube, because it crosses the European continent from west to east, has an important geostrategic position, and the connections through the Black Sea to the Orient and the planetary ocean offers a geopolitical importance, which can be observed over time.

The second river in size from Europe, with 2860 km in length, the Danube gathers its waters on a surface of around 805,300 km^2, which represents 8% from the total surface of Europe. The large river springs from the Black Forest Mountains and after it crosses the territories of 11 European states, it flows into the Black Sea on the territory of Romania.

The Danube is organically connected to the territory of Romania and its geostrategic interest is in full concordance with the geostrategic position of Romania. The territory of our country is crossed, in its southern part, by the Danube on a length of 1075 km (1/3 of its total length), of which 700 km form the state's natural border with the Republic of Serbia and Montenegro, Bulgaria, Moldova and Ukraine, and the rest of 375 Km flows exclusively on Romanian territory. Regarding the hydrographical basin, 33% belongs to Romania, thus, besides Germany, the largest shares of the territorial statistics of the Danube are owned by our country.

From a geostrategic and geopolitical point of view, Romania represents a bridge between the Occidental Europe, on the one hand, and Eastern Europe and the Orient on the other hand. The Danube is the tool through which this connection is achieved, because it constitutes not only a national or regional interest, but also an international interest. This river constitutes the European corridor that connects the North Sea to the Black Sea, creating the easy transition between the north of Europe, the south-east of Europe and the south-west of Asia.

The main European communication route imposes itself with a series of features among the other European rivers.

Firstly, the Danube is an important geostrategic route, being the river that crosses the entire continent as a median axis. Also, the connection with the planetary ocean makes the Danube be "the river with the five seas". Which are these seas? They are some of the most important ones in the economic flux: the Black Sea, the North Sea (through the connection with the Rhine-Main-Danube Channel), the Adriatic Sea, the Aegean Sea and the Mediterranean Sea. The Danube, as a natural border between the European States, imposes itself geostrategically. The countries on the river closely depend on it in their economies, while the economies of other European states are tributary to the Danube, so that any minor change of a geostrategic type being able to create economic unbalances with less favourable influences in the stability of the respective state. The integrating role of the Danube, in terms of economy and policy, is an additional argument for the support of the statement that the Danube represents a geostrategic route at a national, European and world level.

The Danube represents Europe's largest *navigable route*, especially after the building of the important transcontinental navigational connection (which links the North Sea to the Black Sea). Over time, the Danube preserved and developed this feature. The navigation on this river existed during the time of the Dacians, these being well-known as good river sailors in the historical documents. The historian Arrian, describing one of the military trips of Alexander the Great in the north of the Danube (335 BC), wrote in his chronicles that the army crossed the river at night, using local boats made of tree trunks ("monoxile"). But the Greeks created colonies close to the river outlet, on the coast of the Black Sea, to ease the trading with the inhabitants of Dacia. The Romans used the river as the main navigable route of the Empire, this connecting the western part with the eastern part of the empire.

For all the European states and, especially, for the Great Powers, the Danube became the navigable route with profound implications, but for Romania this is organically related to the economic evolution and development as a

European state. This feature of important navigable route gives the Danube the status of a pan-European and international river.

Due to the fact that the Danube is the navigable river, this becomes an important *trading route*. The trading relations are set not only between the river countries, but also between these and the other countries of the European continent and other states from other continents. The trading hinterland of the Danube may be extended at a European scale, and the economic importance is defined at a global scale.

Due to its physical, geographical and economic features, the Danube may be considered an *energy route*. There are many hydro-electrical plants and atomo-electrical plants built on the river, two large hydro-electrical plants operating on the territory or near Romania (the Iron Gates I and the Iron Gates II, built through cross-border cooperation) and two atomo-electrical plants, one on the Bulgarian bank (Kozlodui), and the other on the territory of Romania (Cernavodă). The location of the atomo-electrical plants on the Danube bank is necessary because of the large quantities of water used to cool the reactors. These plants hold an important percentage from the energy balance of the respective countries, contributing to the economic cooperation of the states, but also offering certain energy independence necessary to each national economy.

Nowadays, the Danube represents an important *cultural route*, being the link between the German, Slavic, Romance and Oriental cultures. The Danube can integrate these cultures in the great European culture and can consolidate the relationship between the other cultures on the other continents, especially the Asian one. The Danubian culture itself has a cosmopolite feature with global values.

Finally, the meaning of the Danube as a river route consists of: its trading and transportation importance, the cultural importance, which are primordial; its importance as an energy source; its importance for the national economy, especially for agriculture, fishing, but also for other economic sectors, and, last but not least, its tourist importance, the Danube and its Delta being a great source of benefits by creating a continuous tourist flow along the river, for the organisers, but also for the tourists.

Romania, through its position as a Danubian country, is the main beneficiary of all the opportunities offered by the river, the economic development strategies of our country counting on this vital component of its space.

The Danube has never functioned as a segregation element between the neighbouring territories, but, on the contrary, one can speak of the territorial convergence phenomenon and of ethnic osmosis within the population living on its banks. In other words, the connection between the populations on both sides of the banks has not been destroyed by the state border; this has never become a territorial discontinuity, but an element which has favoured the communication and the preservation of traditions, the languages spoken and the elements defining a people. At the south of the Danube, the Romanian origin population, Walachs or Romanians, is much larger and keeps its ethnic identity, compared to the Bulgarians from the north of the Danube, who have migrated in order to practice agriculture in the favourable areas of Romania. The existence of the Romanian population, in large numbers, although some statistics of the respective states do not always show these numbers, has favoured the cross-border connections and the creation of some territorial cooperation structures between states, like the Euroregions.

On the Romanian valley of the Danube, the conditions for the founding of some cross-border cooperation forms have already existed. The Euroregions created in this Danubian sector are:

The Giurgiu – Russe Euroregion

The signing at Giurgiu of the Collaboration Convention between Giurgiu and the municipality of Russe, lead to the founding in 2001 of new Euroregion. The municipality of Giurgiu and its member communes, the municipality of Russe and the non-governmental organisation The Municipal Energy Association from Russe are part of this Euroregion.

The major advantage is that the two cities are close and are located on the unique traffic route over the Danube with a road bridge and a railway bridge, "the Bridge of Friendship". The border crossing is ensured by 5 customs points.

The Danubius Euroregion

The Euroregion appears in 2002 at the initiative of Giurgiu county from Romania and the District of Russe from Bulgaria. As a location it overlaps the Giurgiu-Russe Euroregion territory. The following administrative territories are included in this Euroregion: Giurgiu county and the surrounding communes, and from Bulgaria, the District of Russe, with a number of 8 municipalities. The Euroregion has a number of 298022 inhabitants in the Romanian side, among which 96% are Romanians and 3.9% are of Romany ethnicity, and on the Bulgarian side there are 250000 inhabitants, among which 27 inhabitants of Romanian origin and 635 of Walachs.

This Euroregion is advantaged by the existence of the only bridge over the Danube, the one from Giurgiu – Russe. All types of national and European communication routes pass through this Euroregion. Another advantage is the closeness to Bucharest, an important centre.

The Danube-Dobrogea Euroregion

This Euroregion was founded in 2002 and it is based on the cooperation agreements between structures of the local administration, non-governmental organisations.

As a position, it is located in the extreme eastern part of the Romanian-Bulgarian cross-border area. This is formed of the districts of Silistra and Dobrich (Bulgaria), which overlap the Quadrate, and the counties of Calarasi, Constanta and Ialomita from Romania. There live 1693522 of inhabitants in the Euroregion, the largest part of the population belonging to the Romanian sector (79%), the Bulgarian territory having only 21%. In the two districts of the Euroregion, 69.53% represents the Bulgarians, 21.55% the Turkish people, 7.03% the Romany people. Walachs (534 persons) and Romanians (57 persons) live in the two districts. 86 Bulgarians live in the three Romanian counties from the Euroregion, and the rest of the population being of Romanian origin.

The Euroregion benefits from a series of advantages, like: the uniform distribution of the transportation networks on the territory of the Euroregion that includes all types of

transportation; the existence of a motorway sector that connects the Constanta harbour with Bucharest; the crossing border points are fairly distributed; the entire area is crossed by national and European communication routes; the building of the Danube – the Black Sea Channel ensuring the connection between the localities on the Danube bank and the ones on the Black Sea coast.

The disadvantages also exist, like: the connection between the sectors found on the left and right of the Danube is done through a reduced number of connection bridges; the presence of an unbalance regarding the distribution of the population on a territory reflected by the 70% found in the eastern sector of the Danube; the unbalance in the density of the settlements.

This Euroregion has its own advantages, that is, the fact that since 2004 it is a NATO border, and from 2007 it is an external border of EU. Thus, we may say that the Romanian-Moldavian borders, the Romanian-Ukrainian borders benefit from a high standard of security in order to reduce the illegal entrance on the territory of the European Union.

The occurrence and the function of these Euroregions emphasise the possibilities of cross-border collaboration, based on the historical collaboration and the evolution of the Romanian people compared to the other neighbouring countries. Within the United Europe, the existence of cross-border collaboration compared to the neighbouring countries, it will ease the relations between the state and the collaboration built for the communication between the respective local communes.

II. PROBLEM FORMULATION

Tourism represents an important economic activity, connected to the quality of the attractiveness elements. The environment offers the support, the unfolding frame for the tourist activity. The quality of the environment interests due to its ambivalence in the relation with the environment. Thus, the quality of the environment can be both a permissive and a restrictive factor for tourism [1].

While analysing the relationship that is formed between the tourism and the environment quality, the tourist resources of the analysed areas have to be known. Based on the data obtained from the specialised institutions and from the field, we have found out that not all the localities are enjoying the presence of some tourist objectives on their territory; even if they have more natural and cultural resources, not all have real tourist valences, an important role belonging to the accessibility, the attractiveness of the resources [2].

Giurgiu County stands out due to the accessibility given by its closeness to the city of Bucharest (NR 5/E 70/E 85), to the railway Giurgiu-Bucharest, to the existence of the customs with Bulgaria (Giurgiu-Russe) on the road and on the railway, on the "Bridge of Friendship", the Giurgiu river harbour. The Danube ensures direct connections between the Giurgiu Free Area and the free areas of other Romanian harbours (Braila, Galati, Constanta etc.), but also foreign free areas (Russe etc.) [3].

a) The natural tourist resources include spectacular landscapes offered by the river meadow, alternating with the small hills that disturb the monotony of the area [4].
- the low and wide river meadow, with the small bays, the sandy beaches, the islands, with the rich vegetation, with aesthetic and recreational importance;
- the favourable climate conditions for tourism, especially in the summer season, including the month of October;
- the places of the confluence with the affluent rivers; where we can see extraordinary natural landscapes, with a high aesthetic value, with some fittings for the fishing, leisure, rest;
- the lakes, the natural pond (Greaca) offer conditions for leisure activities on water and on land;
- the broad-leaved trees (4100 ha.) are concentrated mainly in the meadow sector and on the watershed between Neajlov and Arges, noticing the presence of the species of oak, poplar, acacia, but also the turfs on the Danube bank (Dinului Island, Mocanu Island, the Broken Bank etc.);
- the fauna is specific to the forest areas of oak trees and includes the fallow deer, the wild pig, rabbits, foxes, the pheasant, wild ducks, as well as an important fishing potential.

b) The anthropogenic tourist resources include a wide range of historic and architectural monuments, museums and cultural institutions, ethnography elements [4].
- monuments and archaeological sites - demonstrate the age of some human settlements, but few can be categorised as tourist objectives: Prundu locality, Puieni village, Greaca locality, Greaca village, Giurgiu;
- religious monuments and assemblies - include a large number of churches in the wall, the majority built on the place of older ones and a reduced number of monasteries: Oinacu locality, Oinacu village, Fratesti locality, Fratesti village, Greaca locality, Greaca village, Baneasa locality, Baneasa village; Giurgiu town owns 5 churches with tourist value, due to their age or due to their interior paintings;
- civil monuments and assemblies - consist of buildings which belong to some public or private institutions which are still preserved today, their number is very low and they are more specific to the urban centres: Prundu locality, Prundu village (a group of old houses); Giurgiu town stands out through its buildings with a special architecture, dating especially from the 19th century, but also through the architectural symbols for the town, like the river station (1840), the railway station (1878), the Clock Tower (18th cent.)
- art and memorial monuments - include those bas relieves, statue groups, memorial plates, busts, which glorify a historic event or historic and artistic personalities, the majority in Giurgiu town.
- the technical architecture monuments refer to those industrial, scientific achievements as being

representative for a certain historic period, as symbols of famous engineers, like the following in Giurgiu: "the Bridge of Friendship" (1952-1954) with a total length of 2244 m, ensuring the railway and road connections between Giurgiu and Russe (Bulgaria), the Bizets bridge, built by Anghel Saligny, being the first curved bridge built on a horizontal plan;

- public parks and gardens - these are urban beauty elements for localities, present especially in Giurgiu;
- ethnography and folk culture - the studied territory is part of the Vlasca ethnographic area, characterised by some distinctive features, present in localities; Greaca, Prundu, Frăteşti, Gostinu, Daia, Băneasa, Oinacu;
- the folk and cultural manifestations - these are reduced in number and emphasise only partially the whole artistic treasure of these human settlements, the majority taking place in Giurgiu;
- museums and memorial houses: in Giurgiu there is "Teohari Antonescu" County Museum (1950), the house of Tudor Vianu, which has not yet been transformed into a memorial house.

Together with these natural and cultural values, there is the economic potential component, from agriculture, which could be revaluated through tourism - the vineyards. Important vine surfaces are found on the territory of the following localities: Baneasa, Daia, Greaca, and Prundu.

Calarasi County disposes of less tourist resources, and the ones that are present belong especially to the cultural, artistic, historic and human achievements.

a) The natural tourist resources show that the appearance and the natural frame structure are less attractive and do not offer the diversified tourist potential [4]. Representative for the support of tourist activities are:

- the river course, situated in the south and the south-east, formed of the Danube and Borcea arm, with possibilities of practising tourism through short cruises, nautical sports, fishing;
- the presence of the forest from Borcea, Dorobanti localities (Varasti village - hundred year old forests of oaks, Quercus robur species), Modelu, Spantov, Stelnicu, Jegalia localities;
- the fishing potential existing in the river waters, associated with the hunting one from the forests and the aquatic area (deer, rabbit, fox, wild ducks etc.).

In general, the geographical space has a special feature given by the low surfaces, with agricultural fields and where the natural landscapes are reduced to sectors of meadows that have been preserved over time.

b) The anthropogenic tourist resources [4] are represented by:

- archaeological monuments and sites - represented by some discoveries belonging to the geto-dacic cultures and that have been preserved well over time, including tools, simple weapons, ceramic fragments, jewellery: Cascioarele locality, Cascioarele village, Dorobantu locality, Ulmilor island, Manastirea locality, Sultana village, Spantov locality, Spantov village;
- religious monuments and assemblies present especially in the rural space: Modelu locality, Radu Negru village, Cascioarele locality, Cascioarele village, Manastirea locality, Sultana village, Spantov locality, Spantov village, Calarasi town stands out through its 6 churches located in the town's neighbourhoods; Oltenita town, with a neo-Byzantine style;
- civil monuments and assemblies - these are found especially in the urban localities and only isolated in the rural settlements, where the old houses are preserved, dating from the end of the 19th century and the beginning of the 20th century, in a serious status of degradation, because of the fact that their building material was made of clay bricks, adobe and wood. These exist in Calarasi (County Prefecture Palace, the Town Council, the National Archives etc.), Oltenita town (the Water Castle, the building of the archaeological museum);
- art and memorial monuments - include a very low number of such objectives, existing mainly in towns;
- parks and gardens specific to the towns of Calarasi and Oltenita;
- ethnography and folk culture. The Danube localities are not famous for special elements regarding the traditional architecture, technical installations, specific art and craft, traditional folk costumes, because of the fact that the historic conditions did not favour this process of popular art and culture. The features are the fishing tools and instruments used for fishing on the Danube (the fishing net, the seine, the tunnel-net, the fishing net in form of a bag). The “Baraganul” folk assembly is found in Calarasi, known for its folk dancing troupe, to which singers and performers are added;
- folk, cultural and sport shows - are limited to the local events: poetry and literary creation competitions, in Calarasi; fishing competitions in Calarasi and Oltenita;
- museums and memorial houses. Calarasi has the "Dunarea de Jos" Museum, the memorial museum “Gh. M. Vasilescu"; Oltenita town, the Archaeology Museum (1957), which is focused on the monuments from the Gumelnita culture, from Cernavoda I culture, the bronze, iron ages, the proofs of the continuous inhabitancy of this land by the geto-dacic population from this Danubian space.

The environment represents an element of major importance in the appearance and the development of the human civilisation, an essential role in the harmonisation of the social and economic interests in the territory. The complexity of the environment seen as a system and a public interest asset is a condition that explains the capacity to participate in all the energy, substances, raw materials and information transfers to the human society [5].

The approach of the economic problems of the

environment quality is done through the knowledge of the pollution forms of manifestation. The achievement of these regulations on the economic activity, including tourist and social, can be completed through the knowledge of the quantitive and qualitative dimensions of pollution. Any field of activity is analysed taking into account the raw material used, the toxic substances and wastes. The relationship production - pollution, in the present case, tourist activity-pollution, is translated through the impact on the environment quality. The reduction phenomenon of the negative impact means finding viable alternatives of tourist development that do not bring about environment criticism, but also the preservation of a less polluted environment, favourable to practising tourism.

Within the manifestation of the types of pollution, there are two important laws which act and define the environment. These laws explain at the same time the existence of the feed-back phenomenon through which the environment components react towards the exterior influences. The laws that have a determinant role on the feed-back system are:

- the law of limitation factors through which each environment component (air, water, soil, vegetation, fauna) has limited potential, related to the quantitive values of some substances due to the human activity;
- the law of tolerance through which any component of the environment holds a theoretical curve of tolerance given by the presence of new substances and new micro-elements; according to the decrease or the increase of nature's adaptation, the tolerance can have variations in time and space.

The excess of the tolerance and supportability norms of the substances emitted in the production processes, acts in a different manner on the components from a geochemical and biochemical point of view, through the interactions between the bio and the polluting substances.

In the Danubian sector Giurgiu - Calarasi, as a result of the fact that certain economic activities are dominant; the pollution sources are represented by certain polluting substances. From the analysed environment data we have found out that the most present type of pollution is the water pollution, then the soils and then the air pollution etc. [5]

Many details regarding the types of pollution, the forms of manifestation, the intensity and their extension, have been emphasised through the means of detailed evaluations. These studies have been elaborated with the help of the PHARE program in Romania (Ro 006.14.03) under the title of "Technical assistance for the improvement of the Local Agencies for the Environment Protection", with the direct support of the Line Minister [6].

The air pollution consists in fact of the change of the gas composition, with the occurrence of new constituents, with negative effects, with the addition of powders and microscopic parts that can come from natural and anthropogenic sources. The excess of the admitted concentrations of all these constituents determines the occurrence of different levels of pollution, from the mild forms to more serious ones.

The natural sources of pollution in the Danubian sector at Giurgiu - Braila are relatively reduced as occurrences, concentration; the most present element is represented by the soil particles carried by the air currents, by the pollen from the natural and cultivated vegetation in the territory.

The anthropogenic sources are much more present, especially through the existence of fix points, given by the economic units, the human settlement, to which we must add the mobile settlements, which are scattered on longer distances through the means of air currents, the means of transport, the temperature differences etc. The environment data referring to the localities from the analysed Danubian sector have shown that the air pollution is caused mainly by the chemical substances, especially in gas forms, with a negative aspect, represented by: carbon dioxide and monoxide, sulphur dioxide, ammonia, hydrogen sulphide etc. Moreover, in the urban centres, the air is strongly affected by the presence of the dust particles which through the mixture with the fine water particles form the aerosols. As a consequence of some industrial activities, there are other particles in the air under the form of solid suspensions (the majority from the thermoelectric power stations) with the tendency of deposit over time.

In the studied counties, in the localities along the river Danube, between Giurgiu and Calarasi there are different aspects of pollution, due to the unequal concentrations of polluters, as well as the different values exceeding the admitted actual norms. Moreover, we notice that the two environments, urban and rural, take part differently in the pollution, according to the number of the pollution sources, to the level concentrations. In this context, we can emphasise some general aspects which are characteristic for approximately all the studied localities, given by: the urban environment takes part more actively in the pollution through the presence of a high concentration of industrial economic agents, flows of internal transportation, the existence of important residential areas, intense activities of supply and trading; the industrial activities from the iron and steel industry (Calarasi), metallic constructions, sub-assemblies and aggregates, spare parts (Giurgiu, Calarasi), the food and textile industry (Giurgiu) produce pollution through the constant emissions of fine powders, solid suspensions; the urban manner of housing, with a concentrated in the central areas, with a high density of the population, provokes the air pollution, through the hygiene actions, the cleaning, the wastes, the personal transportation vehicles etc.; the burning processes of the energy fuels (black oil, gas, coal), of the fuels for the means of transportation (gasoline, diesel fuel, liquefied petroleum gas), of those for the iron and steel industry technological processes, the metallic constructions and sub-assemblies, including smoking amplify the pollution phenomenon in the urban area; the river transportation through all the types of motorised ships take part in the air pollution through the use of fuels, producing the gas emissions and ashes from burning (Calarasi, Giurgiu); the rural environment, through the number of localities and villages, holds the greatest share from the total of human settlements present in the Danubian sector; but it does not stand out with strong pollution sources.

The self-cleaning of the air phenomenon occurs in the atmosphere of the Danubian sector, through the means of the air currents, of the precipitations which accelerate the

deposit of polluting substances, the reduction of the concentration of those already existing in the atmosphere. This self-cleaning phenomenon transfers a part of the polluting substances into the hydrographical network or in the lands, practically it does not disappear and it is transferred to other components of the natural environment.

Tourism is influenced by the action of these polluting factors [7], especially by the negative elements that accompany them, like the ammonia concentration exceeding the admitted limits, as a consequence the effects of the open air storages, on open non-fitted fields, of the wastes (in all the rural localities, but also in the urban centres or on the side of the roads) which begin a slower process of decomposition, especially in the tropical areas, with atmospheric calmness, which determines the exceeding of the admitted limits of the gas concentrations with a harsh, pungent, specific smell (ammonia, hydrogen sulphide, carbon dioxide etc.). Another unfavourable element for the practice and the development of tourism is the excess of the concentration of carbon dioxide and sulphur recording rises during the cold season through the burning of the wood, the coal used for the heating and the preparation of the food, especially in the rural areas. Also, the effects of air pollution are multiple, especially the drying of the leaves of plants, determining the fast drying of the plants, which leads to the reduction of the aesthetic of the environment, of the landscape which plays a crucial role in the tourist attraction [8].

The approach of the water phenomenon means a special attention given to the aquatic environment [9]; thus we must take into account the subterraneous waters, the presence of the river and of its direct affluent rivers, the still waters. Following the economic activities the following substances are presented in the waters: pesticides, diluted chemical fertilisers, hydrocarbons, non-ferrous metals, detergents, phenols, sediments. Due to the fact that the water is a liquid, many polluters are soluble in the water, others form colloidal dispersions, and a reduced number of polluters is found under the form of insoluble suspensions. The physical and chemical qualities of water make some polluters to have biodegradable properties, other to be refractory, with a tendency to accumulate. The anorganic pollution results from the localities in the Danubian sector, analysed through a series of substances produced by the economic agents from the territory (the iron and steel industry - Calarasi, the chemical industry - Giurgiu town) [10]. The organic and biological pollution is caused by the presence of some substances which come from the zooculture, housing activities, from some micro organisms and bacteria that can generate the viral and parasite, highly transmissible illnesses (especially within Calarasi County). The thermal pollution occurs especially at the level of the urban localities, through the evacuation of the hot water used in the household, by the industry, fact that influences the accelerated eutrophisation phenomenon. The water pollution effects are translated through the destruction of several species of the flora and fauna, the reduction of the use of water supplied to localities, in the light industry and the agriculture.

The tourist activity influences very little the quality of water because the Danube area is not exploited in the true meaning of the tourist potential, and the Danube has a great capacity of self-cleaning, its waters falling in the 1st category of pollution. We cannot state that the degree of pollution does not influence the tourism. There are areas, in the area of Giurgiu harbours (the oil terminal, road, the basin and the naval construction site channel), from Calarasi (the iron and steel industry harbour), from Oltenita (the commercial harbour, the naval construction site), which are polluted with hydrocarbons, suspensions etc. and which create an unpleasant aspect, rejecting the tourists, some of the pollution resources being situated in the proximity of the tourist harbours [11].

In the Danubian localities from the Giurgiu - Calarasi sector, the paedo-genetic factors (relief, climate, vegetation, micro-organisms) participate actively in the soil formation, especially in the areas outside the cities [12]. The preservation over time and space of the soil quality, of their natural fertility is dependent on the type of agriculture, of the food habits of the population from the human and rural settlements, but also from other economic activities. In time and space, all the human interventions have affected all the types of soils present in the specific fittings of each social and economic field (housing, harbour operations, road transportation, industrial units etc.). In many areas situated especially outside these localities unbalances of the ecological balance of the soils have occurred, affecting the agricultural efficiency of the soils.

In the cities, the soils inside the facilities of some economic operators (energy industry, food industry, public services) are confronting with the pollution because of the improper storage of the industrial wastes, to which we can add the housing waste from the households located in the suburban area of the town. In the rural localities, the soils are polluted frequently through the excess of chemical fertilisers, pesticides, the dejections of the animals which are directly deposited. Moreover, the accidental pollution is produced through the leaks of hydrocarbons from the storage systems and of the degradation of the transportation pipes, affecting the neighbouring natural lands. The deforestation of the protection forest curtains from the last decade has lead to the accentuation of the deflation phenomenon and the fertile soil particles, accentuating the erosion of the surface, to which we add the physical degradation through the settlement of the loess layer, which determines the texture compaction.

The recreational role of tourism is negatively influenced by the pollution of the soil through the modification of the agreeable landscape, because the presence of important quantities of urban and rural waters deposited in improper conditions, which allow infiltrations of polluting substances, the reduced endowment with used water cleaning plants, which through uncontrolled leaks affect the quality of the soils; the acceleration of the erosion and degradation of the soils in the surface through the destruction of the protection forest curtains and the acceleration of deflation, destroy the soil layer, having direct implications on the vegetation, which create a first visual impact, the impact on the tourist being of rejection [13]. On the other hand, the settlement of the soil phenomenon acts directly on the buildings, affecting the resistance structure; the cracks in the exterior walls, the degradation of the buildings reducing their tourist

value.

The quality of the environment although it is seen through its main components, in the last decade great attention has been paid to all that the natural and anthropogenic landscapes mean. Thus, we give more and more importance to the ecological revival of the mentioned landscapes and the reduction of the negative effects on the human activities.

In the Danubian sector from Giurgiu County there are some aspects that particularise the two environments. The natural environment confronts with the several features caused by the anthropogenic intervention. The old natural forest has been replaced with the plantations of hybrid black poplar (the Balanoaia and Gutu forests, near Giurgiu), which protects the river from the dam. The natural sylvosteppe vegetation has been massively reduced in the favour of the agricultural lands, fact that has favoured the steppe formation and the surface erosion.

The anthropogenic environment is represented by the urban structure and aspect of Giurgiu town, of the aesthetic and ambient aspect of the build heritage. The most part of the town is found on the 1st inferior terrace of the Danube, which goes down towards the river meadow. The old image of the town included many buildings from the 19th century and the beginning of the 20th century, with a special architecture, specific for the harbour areas, which gradually has been replaced with the new bedroom - blocks of flats assemblies. Thus, the picturesque of the town is partially preserved in the central area, but also many of them need important restoration and preservation works. A special aspect is given by the partial degradation present in the ecosystem frame caused by the closeness of Giurgiu town (e.g. Mocanu Island).

In the Danube valley from Calarasi County, we notice a reduction of the natural environment through the substantial reduction of the flora and wild fauna lands outside the town in favour of the agricultural and built lands (Calarasi, Oltenita), even more obvious through the expansion of the towns in the locality - villages (Cascioarele, Ciocanesti, Cuza Voda, Manastirea, Jegalia). Also, we notice a reduction, a degradation of the green spaces inside and outside the two urban towns. Moreover, we notice a degradation of the natural habitat from the wet area, which constitutes the Iezer avifauna reservation (Calarasi town). A partial destruction is noticed in the ecosystem that includes the facilities for the rice paddies from Calarasi Island - Raul. In the last ten years, the lack of legislation regarding the protected areas, the lack of interest from the local authorities have allowed the degradation of the biocenosis for the avifauna from Ciocanesti locality. To this we add the degradation of the natural environment of the islands on the Danube, lacking a special status and a protection regime. In the proximity of the localities situated along the river, through the uncontrolled deforestations, the protection forest curtains have disappeared and the hunting and fishing pouching has increased.

The built environment has suffered during the last three or four decades through the degradation of some valuable monuments: in Calarasi: Ana and Marinache Popescu House (1907), Demetriad House (1888) etc., the former Court House (1895), the Old Post Office building (1904-1905), Stirbei Voda High School (1881-1884) etc.; in Oltenita: the Museum of Archaeology building (1925) needs urgent full consolidation works. In some localities there are valuable religious buildings, with the status of architecture monuments which are severely degrading: in Ciocanesti locality - the "St. Nicholas" church in the wall (1892), Manastirea locality - the “St. Apostle Andrew" church in the wall (1732), Chiselet locality - the "Dormition of the Theotokos" church (1860) etc. Besides these there are other primitive and ancient monuments, with the status of archaeological monuments: Manastirea locality - Sultana site (5th century B.C.) with three layers of housing which belong to the Gumelnita culture; Cascioarele locality – Neolithic settlement (5th cent. B.C.) of the same culture, with two levels of housing [14].

III. PROBLEM SOLUTIONS

Relationship tourism-environment must be dynamic and protective. In the Danube Valley, Giurgiu – Calarasi area, need to develop those tourist activities that bring no environmental disadvantages. Environmentally friendly form of tourism, as ecotourism and rural tourism must prevail. Economics mutations occurred after 1990, when a lot of major polluters were closed in the main cities located in this sector, promotes the development of tourism. This area has an important tourism potential, which must be developed to its true value. The tourism could be an alternative for economic development in the area, especially after industry of this area took major losses. Ecological approach to tourism development is the best solution fro environmental protection of the Danube valley, between Giurgiu and Calarasi.

IV. CONCLUSION

The degradation of the natural and anthropogenic environment leads to the decrease of the tourist value of the natural or anthropogenic landscapes, determining the decrease of the tourist interest for certain objectives, sometimes extremely valuable. Also, the more degraded an environment is, the less attractive it is and needs more interventions and investments for the tourist revaluation of its potential.

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