

# Possibilities and limitations in the development of selective forms of tourism in the Croatian archipelago: case study of the Istrian islands

Z. Gržetić<sup>1</sup>, M. Kovačić<sup>2</sup> & S. Favro<sup>1</sup>

<sup>1</sup>*Hydrographic Institute of the Republic of Croatia, Croatia*

<sup>2</sup>*Primorsko-goranska County, Department of Maritime Affairs, Transportation and Communication, Croatia*

## Abstract

In this paper, the authors point to the importance of the research and analysis for the purpose of development and valorisation of islands. The directions of the future development have been defined as the main support to planning and decision-making. The analytical approach is of particular importance for the long-term development of Istrian tourism.

The approach and methodology applied in the research are based on the analysis of data from primary and secondary sources. Such data indicate the current situation in the unique and distinct area of special importance. Primary sources data have been collected and processed in the Programme of sustainable development of the islands in the Istrian County. The authors have observed the data through their causal connection in the space, especially among selective forms of tourism and preservation of the environment, and socio-economic processes caused by the development of tourism. The secondary sources of data are various data obtained from the Croatian Bureau of Statistics (demographic and economic), marine and topographic charts, and results of multi-criteria site researches of the Croatian archipelago.

The methodological approach to the processing of various data (geographic, economic, ecological and sociological), through which the main characteristics of the effects of tourism in the area of the Croatian littoral are observed, is based on multi-criteria analysis.

The aim of the research was to identify possibilities and limitations of further development and improvement of selective forms of tourism in the Istrian archipelago.



On the basis of the researches and analyses and by applying theoretical knowledge, the authors have defined measures for qualitative development of selective forms of tourism.

*Keywords: Croatian islands, Istrian archipelago, selective forms of tourism, sustainable development.*

## 1 Introduction

Any multi-criteria problem includes several different, usually conflicting criteria, which may be of different importance to the decision maker. Most methods for choosing the best alternative, or generally the methods for multi-criteria decision making, require information on the relative importance of each criterion (Roubens [3]). There are a number of methods for assessing the level of importance of a criterion, completely dependent on the human judgement. Techniques in that category may apply to an individual or to a group. In that process, the importance of criteria may be assessed by the decision maker himself or the relevant opinion is sought from a group of experts (judges). A systematic approach in solving such multi-criteria problems requires a multi-criteria analysis in order to define recommendations to the local government in the planning of future development.

## 2 Defining the problem

The research [8] has revealed that the south-western coast of Istria is surrounded by 81 islands and rocks, contrary to the conventional perception that Istrian islands embrace the archipelago of Brijuni, the islands of Sv. Nikola, Katarina and Crveni Otok (hotels), the island of Veruda (campsite) as well as a few minor islands, neglected by users. It comes to an estimated number of 30 islands at the most, which is approximately one third of the real number of islands.

### 2.1 Description of the area

As for their geographic position, the Istrian islands belong to the Croatian part of the Adriatic Sea, specifically its northernmost portion. Such geographic position is responsible for some specific characteristics unique in the Adriatic. The most northern part of the Adriatic Sea is a shallow area with maximum average depths of about 30-35 metres. The Istrian littoral is distinguished not only by a large number of islets, but also by many rocks and different types of seabed sediments. Morphological diversity of the seabed provides for many different living conditions and a great variety of habitats. Therefore, in this relatively small area one can find almost all original elements of the marine ecosystems in the Adriatic. In the southern part of Istria around Cape Kamenjak, the island area borders on the deep open sea, so that constant and strong current flow allows the exchange of water masses and continuous inflow of the sea water. Like other enclosed and shallow areas worldwide, this sea area is subject to a significant

hydrological and meteorological variability. It is the coldest part of the Adriatic, its ecological factors being highly variable [7].

These generally small islands are in fact isolated unities with specific endemic communities of flora and fauna, much influenced by the sea.

Scarce resources of arable land surrounded by the sea and traditionally unsafe position of small island settlements by the sea, as compared to substantial resources of arable land and vicinity of the position of mainland settlements with safe hinterland, are the main reason why Istrian islands are traditionally uninhabited.

Coastal area is the area of islands much defined by the influence of the sea (about 3 km), and with Istrian islands, because of their size, it embraces the whole surface area of islands.

Sensitivity of ecosystems on both coasts of an island is even greater with an archipelago - a group of islands lying relatively close to one another. In this case, the belts of direct ecological exchange in the seabed join together in a shallow coastal belt of the internal coastal waters. The system of local ports and small harbours and marinas (nautical tourism ports and small harbours) on the Istrian coast, together with waterways in the internal coastal waters, make these islands easily accessible. In 300 m area off the most prominent parts of the coast, special regime of navigation is established to ensure safe conditions for leisure activities in this sea area.

## 2.2 Defining the problem

As to their size and lack of population, the islands in the Istrian County are quite untypical of average Croatian islands which set the standards for special regulations on islands. According to such criteria, these islands, with some exceptions in national parks, are economically insignificant, which should be redefined in Istria.

However, it is a potential *unique and particular area of special significance*. This could be very important for a long-term development of Istrian tourism, even if it is just a promotion. As a rule, Istrian islands are usually presented and analysed within a *formal* administrative-territorial division, as belonging to a city or district (Poreč, Vrsar, Rovinj, Bale, Pula, Medulin, and Ližnjan), which take little or no interest in them.

Their analytical division should be based on a *functional* classification of their attractiveness as tourist destinations, as a result of their present status and use (national park, wild islands, specific agricultural production, islands with lighthouses, organised day-trip tourism, hotel complexes, and urban purpose).

Being uninhabited, and having no other alternative, except two islands off Pula, intended for urban purposes, Istrian islands are appropriate for day-trip tourism. However, due to their particular characteristics and position, they need to be further investigated, taking into account evaluation methods and presentation of current situation, especially of their present use.



### 3 Assessment of the current situation

Istrian islands are constitutive parts of the Istrian tourism basis, the basis for creating an optimal Istrian tourist product, but they are also parts of tourism bases of particular tourist destinations for creating their respective tourist products.

#### 3.1 Economic and social use

The islands with hotel complexes (Sv. Nikola, Katarina, and Crveni Otok) and an organised campsite (Veruda) have reduced possibilities for day-trip tourism. The island of Veliki Brijun, with hotels, is in the same position, as it represents a joint attraction together with other islands of the Brijuni archipelago (within the Brijuni National Park), which should be evaluated separately.

Each island has its area of the seabed, attractive for tourism. In some places, Istrian islands are grouped into archipelagos incorporating parts of sea areas into a visually attractive whole, protected from winds and waves, and therefore suitable for sports and recreation. Besides the Brijuni islands, there are three more such groups of islands, near Poreč and Vrsar, near Rovinj, and near Medulin and Premantura.

Most of Istrian islands and their surrounding areas are protected by environmental protection regulations on different levels:

- national park,
- protected landscape or
- ornithological reserve, and
- special marine reserve.

Those that remained unprotected by any such regulations are the islands of Sv. Andrija, Katarina, Uljanik, and Veruda in the port of Pula, as well as Premanturski Školjić and Pomerski Školjić in the port of Medulin. In this way, most of Istrian islands have been protected from any construction, even of tourist facilities, requiring an integral approach to their use for tourism purposes.

It should be emphasized that the marketing name of Crveni Otok (Red island) in fact includes two connected islands: Sv. Andrija and Maškin.

Each island and particular groups of Istrian islands, have an authentic or transformed organic connection with some places on shore. These islands were originally used by local inhabitants living on shore for agriculture and cattle breeding, which later has become neglected. In the meantime, an uncontrolled tourism conversion occurs in the relation between islands and mainland.

#### 3.2 Assessment of the current situation

In the first stage of the research, assessment of island situation in the Istrian County required a complete identification and functional classification of all Istrian islands, especially in order to be perceived as a unity in respect of tourism. This unity is evaluated in terms of a total number of islands and rocks, their size, and their use according to tourist standards [8].

Although being relatively small as compared to other Croatian islands, except Veliki Brijun, Istrian islands differ as follows:

- Big islands
- Medium islands
- Small islands
- Very small islands and rocks.

On the basis of the current tourism situation and tourism potentials on these islands, seven modalities were defined for their tourist use or counter reasons for such use:

- National park
- Wild islands
- Specific agriculture
- Islands with lighthouses
- Organised day-trip tourism
- Hotel complexes

Among eighty-one Istrian islands, just one can be regarded to be relatively big (Veliki Brijun), two of relatively medium size (Mali Brijun and Veruda), seventeen small ones, and even sixty-one very small ones.

Fourteen islands have been designated as national park, forty-eight as wild islands, one of them with specific agriculture, five islands with lighthouses, seven islands with organised day-trip tourism, four islands with tourist complexes, not including Veliki Brijun which is mainly regarded as national park, while two islands are intended for urban purposes.

In terms of tourism, Istrian islands should be evaluated from the following points of view:

- as island unities, and
- within their manner of use.

### **3.2.1 Istrian islands as a whole (“Istrian island necklace”)**

In the valid plans of Istrian County (regional plans, development plans, and marketing tourism plans), Istrian islands are not singled out as essential component of Istria [7].

Representation of Istrian islands entitled the Istrian island necklace, reveals a specific tourist area, to be evaluated in functional, development and marketing terms both as a whole and individually.

#### ***Brijuni National Park***

In spite of the fact that Brijuni National Park has a specific inner structure, due to its legal status, it is the most valuable pearl on the Istrian necklace. Its inner structure is not in contrast with the overall structure of Istrian islands. Veliki Brijun offers accommodation (456 beds in 238 facilities), sightseeing attractions, and day-trip facilities. Some facilities untypical of tourism are also situated there (military ones), as well as some exceptional facilities (government protocol). Mali Brijun has an attractive but inactive fortification system, Vanga memorial objects, while other islands can be regarded as wild.

Many studies and plans have been made to define the purpose of the area of National Park, especially regarding its accommodation facilities, implying

permanent facilities and marinas. Analyses of accommodation facilities on the Brijuni islands, within the national park standards, show that if the hotel tradition is continued, accommodation for 800 guests at the most can be provided, while marinas are not recommended.

### ***Wild islands***

Wild islands include all islands and rocks covered with underbrush or stone rocks, without a landing for vessels. As an ecological outpost, they contribute to the island landscape, and attract tourists who take interest in sailing around and sightseeing from the vessel, swimming ashore, and staying there on an ecotourist day basis. On some of these islands there are valuable archaeological and paleontological finds.

### ***Specific agriculture***

To the present day, specific agriculture has been preserved just on the island of Fenera, where herds are a special attraction for tourists.

### ***Islands with lighthouses***

When sailing around, special visual attractions for tourists are lighthouses on some of the islands, belonging to a specific building heritage. There is a possibility of visiting them, taking care not to obstruct their basic function.

## **3.2.2 Manner of use of Istrian islands**

Certain islands offer organised day-trip tourism of different types: from the vaguely differentiated campsite of stationary-visiting type, through excursion facilities with all modern comforts, to modest landings for vessels. These islands are intensively visited.

### ***Hotel complexes***

Some islands have hotel complexes which by their size (Sv. Nikola – 460 beds, Katarina - 320 beds in 120 accommodation facilities, and Crveni Otok /connected islands of Sv. Andrija and Maškin/ 969 beds in 411 accommodation facilities) absorb entire accommodation of these islands on mass tourism level, leaving little space for recreational day-trip tourism.

### ***Urban purpose***

Two islands in the port of Pula are intended for special economic purposes, and could be just theoretically used for tourist purposes, for leisured education on the modern production (living and working culture).

### ***Maritime traffic***

Maritime traffic in the Istrian County, as to its strategic position, the number of urban settlements on shore, and morphological features of the coastal area, does not meet the criteria for a more intensive development. This is particularly true of the public, international, and regional traffic of passengers and goods, and in some degree of leisure sailing.

## **4 Development possibilities and limitations – tourism**

Indented coastline with a number of islands, islets, and rocks, crystal clear sea, and preserved cultivated landscape, and a large part of the natural seaside, are

considered to be special values not only of Istria, but of Croatia as well [6]. Development plans include particularly the following elements [9, 10]:

- tourist component of the area as a major strategic development guideline,
- criteria for the use of coastal area, and
- measures to improve the quality of the environment.

Management of Istrian islands, and of the Croatian Adriatic as a whole, should be based on the integral management of the coastal area [4]. Such area includes the coast, the continental shelf – national territorial waters, and the maritime border of Croatia, involving the plan for the purpose of the sea (surface and seabed) with important economic function of fisheries and mariculture.

Possibilities which are under consideration for future development of Istrian islands are mostly aesthetic-ecological, and just for some islets tourist-recreational, or economic. Special issues are related to the islands of Brijuni, managed by the Brijuni National Park, under the Ministry of Culture, Directorate for Nature Protection. The islands have many development needs, whose realisation is slow. The islands of Brijuni are also used for the government protocol, hence the presence of the Croatian Army. These islands attract different development-investment interests some of which may be characterized even as outward threats to sustainable and ecological development.

In the context of regional development of Croatia, coasts and marinas have been designated as areas of special concern because of increased interest and value, or areas of rising interest in investments. For this reason, nautical centres should be distributed regularly throughout the area. In other words, it is necessary to have few large marinas and a large number of smaller ones, to meet an increased need for berths and other services provided to leisure mariners during the season.

Special emphasis within regional development and planning orientation of tourism is placed upon the development of tourism according to possibilities (capacities) and limitations of a particular area.

Regional plan of the *Istrian County* specifies the following limitations and standards for the ports of nautical tourism:

#### **Dry marinas**

- available area in the costal part should meet the need for storage of at least 500 vessels on land,
- berths in the sea area should be constructed as transit berths only,
- dry marina may include a shipyard for the construction or repair of vessels less than 25 m in length, and preferably of larger vessels,
- dry marina should be directly connected with the surrounding area by an urban road at least.

#### **Marinas**

- if the area for storage of vessels on land is insufficient, in terms of special regulations, it shall be provided on other suitable locations in the construction area of that city within 5 km of the harbour, provided that all approach roads to the harbour are urban roads at least, and that they are permitted for the transport of special cargo,

- as a rule, marinas are constructed in the close vicinity of areas with major tourist accommodation or recreational facilities, or within port areas near major urban centres,
- marinas should have possibilities of expanding into the surrounding area, but not to the disadvantage of swimming and bathing and other recreational facilities, nor threatening the protected parts of the environment,
- number of vessels per hectare of the sea area is not recommended less than 50 and greater than 120.

When determining the coverage of particular ports, in order to set the standard, berth is understood to be the berth for a vessel of about 12 m in length, where such vessel is taken as equivalent to an accommodation unit of apartment type, or 3 beds.

Maximum volume of ports of nautical tourism, covering the construction area plus the sea area, is given as:

***number of berths x equivalent number of beds x unit-surface per bed***

All ports of nautical tourism, defined by the Plan as new ports (except dry marinas), can be initially built as landing places or yacht harbours, and for such purposes concessions can be granted at county level. Categorization of marinas sets high standards, especially to the existing ones. Therefore, when they have fulfilled minimum categorization conditions, they must invest in services to obtain the required quality level.

## 5 Recommendations for protection of the sea and coastal area

To protect efficiently the sea and coastal area, the local government must take the following actions:

- define the limits of maritime domain for each local government unit through regional plans,
- establish and develop a register of sea polluters, identify the methods to eliminate pollution, and the points of permanent quality control of the sea water – especially for internal waters and the territorial sea,
- designate organisations and companies to conduct the sea monitoring according to international standards,
- cities and municipalities, both coastal and insular ones, alongside with the existing or planned sewage systems, should fit mechanical or biological purification systems, before discharging the waste water into the sea,
- set standards for the equipment of ports of nautical tourism, especially for technological systems, and fit out the existing and planned ports to be capable of collecting wastewater from any vessel [2],
- through intensified control and fitting out of ports, prevent the discharge into the sea (fuel, oil, bilge, solid waste, human waste), in the internal waters and the territorial sea in order to protect the maritime domain and maintain the quality of the sea,
- through the development of small tourist harbours, provide adequate accommodation to leisure mariners, who presently use available bays and unorganised small local harbours. The concession holder shall be



responsible for ecological maintenance of the maritime domain, i.e. for collecting garbage and other waste. Concession provider shall be responsible for the control of adherence to environmental protection regulations, for an appropriate charge, providing funds for job vacancies, especially on islands.

## 6 Conclusion

Istrian archipelago with almost 80 islands and islets is a very valuable area in ecological and environmental terms. As far as management system is concerned, Brijuni islands deserve special attention.

The concern about islands becomes prominent when they are in the limelight for investments or other purposes. This leads to deliberations on their efficient protection, improvement and development. Local government and inhabitants of Istria have not recognized yet the possibilities and importance of their islands.

Responsible institutions are usually passive or even unconcerned about the development of islands and islets on its territory. The exception is Brijuni archipelago, consisting of three islands with tourist facilities in the area of Rovinj and Poreč, three islands port for economic purposes in the port of Pula, bringing revenue for local government, and two or three islets with an improvised catering activity in the sea area of Medulin.

Insufficient involvement is the main weakness of the above mentioned institutions. Strength of these islands is their ecological and environmental value. They render Istrian coast richer and more beautiful. Yet, the information on strengths and weaknesses of island communities and their social activities is not available. Intentions and investments, especially from abroad, bring along threats and opportunities for the development of these islands. Local institutions responsible for development projects should become involved this process.

It is a logical conclusion that the islands in the Istrian County, both separately and as a whole, are a major *potential tourist attraction*, to be evaluated accordingly and protected from devastation and unreasonable use. This is possible through the promotion of selective forms of tourism, especially ecological, medical, and nautical tourism.

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