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## NAUTICAL TOURISM THE BASIS OF THE SYSTEMATIC DEVELOPMENT

*This paper deals with the study of nautical tourism, stressing the importance of efficient management of nautical tourism as a system. Nautical tourism is a complex system requiring the use of all patterns and regularities of the general system theory and principles for the management of integrated complex systems. The study aims to identify essential elements and characteristics of the nautical tourism in Croatia.*

*Croatia has very favourable natural conditions for the development of nautical tourism, such as a long coastline, a great number of islands, islets and bays suitable for leisure mariners, as well as favourable climatic and hydrographic conditions. Besides basic natural spatial conditions and development potentials of nautical tourism, special importance is also given to the development of complementary activities. The authors examine the possibilities for the development of such activities, defining the concept of nautical economy as a basic guideline for the future development of nautical tourism in Croatia. Special emphasis is given to the development of complementary activities on islands, and parallels are drawn between the achievements in nautical economy of Croatia and nautical economy worldwide.*

**Key words:** *system, nautical tourism in Croatia, complementary activities, nautical economy, development of islands.*

## 1. INTRODUCTION

A rich variety of relief formations, bays, islands, and islets, is an attractive element in the leisure navigation. The indented coastline of Croatia provides opportunity for an attractive cruising, offering safe natural shelters. The Adriatic Sea is a deeply indented gulf of the Mediterranean Sea extending in NW-SE direction. Eastern coast of the Adriatic is one of the most beautiful and the best indented coasts of the Mediterranean. According to the United Nations Convention on the Law of the Sea, it belongs to the so-called archipelagic sea areas (Duplančić Leder et al. 2004). In the internal waters and the territorial sea of the Republic of Croatia there are 1.246 islands, islets, rocks and rocks awash, ranking Croatia, next to Greece, the second in the Mediterranean. The length of coastline in the Croatian part of the Adriatic is 6.278 km, of which 1.880 km of the mainland coast and 4.398 km of island coasts. The indentedness coefficient of 11.10 renders Croatian coast, next to Greece, the best indented coast in the Mediterranean. The Adriatic Sea is a deeply indented gulf of the Mediterranean belonging to semienclosed seas. It covers an area of 138.595 km<sup>2</sup>. The length of coastline in the Croatian part of the Adriatic is 6.278 km, of which 1.880 km of the mainland coast and 4.398 km of island coasts. Croatian part of the Adriatic Sea covers 54.031 km<sup>2</sup> (Riđanović, 2002).

## 2. CLIMATIC AND HYDROGRAPHIC CHARACTERISTICS OF THE ADRIATIC – MAJOR FACTORS IN THE DEVELOPMENT OF NAUTICAL TOURISM

According to Köpen's climate classification, the entire area of the Adriatic, except its furthest north and northwest parts, has a Mediterranean climate with hot and dry summers, and wet autumn-winter period, with the exception of the highest parts of Brač and Hvar islands which have a Mediterranean climate with warm and dry summers. North and northeast parts of the Adriatic, Istrian coast, and Kvarner littoral with islands, have a moderate warm and wet climate with hot summers (Istrian coast, seaside and islands at the foot of Velebit), while the interior of Istria has a moderate warm and wet climate with warm summers. These areas are characterized by a more pronounced annual course of air temperature and a greater quantity of precipitation in the summer.

The highest air temperatures in the Adriatic are in July and August, and the lowest ones in January and February. Mean January temperatures are lowest in the North Adriatic (e.g. in Rovinj 5°C), and they increase toward South Adriatic (e.g. in Dubrovnik 9°C). Mean July temperatures also increase from the North Adriatic (e.g. in Rovinj 22.7°C) toward South Adriatic (e.g. in

Dubrovnik 24.6°C). Favourable temperatures are a significant parameter for an extended nautical season in the Adriatic.

It can be concluded that the Adriatic Sea is relatively safe for leisure craft in the summer period. On the other hand, in the winter period small craft are threatened by unfavourable weather conditions<sup>1</sup> and their consequences. The number of vessels at sea is insignificant in the winter period, so that unfavourable weather conditions have a comparatively small influence on the safety of navigation in general.

Occasional summer storms are particularly dangerous, causing many maritime accidents, as because of their sudden occurrence many leisure mariners are caught unprepared. Other types of unfavourable weather conditions, such as reduced visibility, have little significance for the stay and navigation of leisure vessels, chiefly because such conditions occur in the winter period when few leisure vessels put out to sea.

### **3. INTEGRAL MANAGEMENT OF NAUTICAL TOURISM – SYSTEMATIC APPROACH**

Nautical tourism should be examined as a complex system using all patterns and regularities of the general system theory (Kovačić, 2004), and principles for the management of integrated complex systems. Nautical tourism is a subsystem in the economic branch of the maritime economy and tourism within overall Croatian economy, with all the characteristics of system and its partial components which are defined as entities, facilities and elements of nautical tourism.

Croatia has very favourable natural conditions, such as a large sea area (as well as lakes and rivers), a long coastline, and a great number of islands, islets, and bays suitable for leisure mariners. Climatic conditions also contribute to the development of nautical tourism (Favro, 2002). It is necessary to ensure manageability of the system, as well as interaction between all the components within the system, and their joint orientation towards common values and goals, which is the basis for achieving efficient and maximum results.

The above presented characteristics of the system of nautical tourism suggest that nautical tourism is connected with two economic fields – maritime economy and tourist economy – taking an equally important place and role in either. The objective of this paper is to provide orientation and guidance towards management of the nautical tourism system, including:

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<sup>1</sup> Unfavourable weather conditions are considered to be the following: for vessels up to 8 m in length, wave heights over 0.8 m; for vessels between 8 and 20 m in length, wave heights over 1.7 m; for vessels over 20 m in length, wave heights over 2,5 m.

- integrated planning of all activities within the system
- realization and implementation of all planned activities
- analysis and control of the results of activities in accordance with schedules
- initiating actions for realization of the planned goals, or setting new goals.

Nautical tourism as a system is studied primarily through its basic purpose and functions, and then through its goals, activities, organizational and exploitation basis, complexity and dynamism, manageability, dependence on the environment and possible changes in the environment. Furthermore, nautical tourism is examined in relation to all its spatial, social, economic and other effects essential to the entire tourist and economic system.

In this process it is very important to define the initial situation which is indispensable for the efficient management of the system, and after that to set the mission, vision, and policy, and establish a system for setting goals. On the other hand, the system, to be managed, must acquire characteristics of the quality management system. This involves a process orientation serving the needs of user (customer-leisure mariner), requiring continuous improvement of the system and sustainable development policy based upon overall safety and protection of the environment as major comparative advantages of nautical tourism in Croatia.

### **3.1. Defining the system of nautical tourism**

Prerequisite for the efficient management of the system is to define all the components and their mutual links, as well as interaction within the model to be simulated, and therefore ensure increased efficiency and manageability of the process through mutual linking. In other words, it is necessary to define entities, facilities and other elements of the nautical tourism system, establish mutual links and relations, and assess their influence on the results of the system, with interactive connection with the main subject – the leisure mariner.

In practice, this involves establishing interest associations charged with organizing and gathering Adriatic yachtsmen in order to achieve the best possible conditions for their stay in the Adriatic. At the same time, they are the Adriatic's mainstay for appearance on the market, competing with other Mediterranean countries. The association should also facilitate the issue of sailing and angling permits through the system of privileges and adequate information throughout the year. It is also necessary to establish business partner's organizations having the same interest, i.e. to provide high-quality and timely service and products.

The central figure in this model is leisure mariner, and it helps him in planning his trip, finding ways for a quick and simple arrival to the Adriatic, choosing adequate vessel and marina, and satisfying his personal interests. These

two interest systems can have direct influence on the fundamental interest of the state, which is a clear and transparent circulation of the means of payment through the cashless payment system and discounts. The state also participates in such system, making a profit. It is therefore necessary to harmonize the existing legal framework with the system model and established strategic orientation, conforming to the requirements of the market and legislative harmonization with the EU. This means introducing the same quality system and standards like in the European Union, implementation of the Blue Flag standard, etc. Leisure mariners expect an approach similar to the one in their own country, and Croatia should therefore adapt to such requirements. The laws must be efficient in eliminating everything that might harm the system, and they should not be applied in the lump.

Following the policy on satisfying the requirements of leisure mariners, it is necessary to simplify the procedures and eliminate administrative barriers to their arrival and stay in the Croatian part of the Adriatic, laying special emphasis on new solution models (entering national parks, charging for sojourn tax, admittance of mega yachts). One registration during the stay should become the rule for all parts of the system, while the quality of resources and adopted standards should ensure support during the stay. In order to ensure safety to leisure mariners, it is desirable to monitor them while at sea, in a professional and discreet manner. Monitoring is important not only for the safety of the system, but also for the protection of environment, coast, people, etc.

Due to increased requirements for overall safety, for efficient control and processing of data in nautical tourism, it is particularly important to establish the computer system integration, to ensure prompt and efficient decision making in crisis situations and regular functioning of the system. There are several ways of accomplishing this, but each of them involves a responsible entity both at administrative and practical level. As there are no responsible bodies in this approach, they need to be established at existing institutions. For an adequate functioning of the system, it is necessary to ensure a continuous communication of the system with the market, as well as communication within parts of the system. A good communication with leisure mariners and between the parts of the system will encourage competitiveness, and help raising the quality of service, resulting in a satisfied customer – leisure mariner.

Marina should become a meeting point for exchange of experiences, communication with other guests, but also with employees (currently not optimal). Education, i.e. workshops and seminars should provide training of personnel. European sailing is organized into a community, and so should Croatian nautical tourism. Marina should have a social and service orientation, not only serve as a physical storage place for vessels. The interest group of people providing professional services in marinas still cannot meet all the needs of leisure mariners. What needs to be provided for leisure mariners is an efficient and prompt mail delivery, because marina is just their temporary address.

### **3.2. Defining receptive capacities – possibilities and limitations of the system of nautical tourism**

On the basis of parameters for a long-term sustainable development and methodology, it is necessary to determine the maximum receptive capacity of the Croatian Adriatic sea area, which would not endanger its natural balance, quality and value. By means of comparison between the existing conditions of nautical capacities and the estimated data on maximum admittance, it will be possible to implement a dynamic plan for achievement of maximum occupancy.

Total receptive capacity will be available when all ports and small harbours become equipped for the reception of a larger number of leisure craft, and supplied with facilities for the dispersion of vessels all over the Adriatic. Appropriate pricing policy should encourage arrivals out of season, in other words reduce seasonality to a minimum.

Proceeding from the receptive capacity data for certain parts of the Croatian sea area, and according to the established classification and categorization of ports of nautical tourism, it is necessary to prepare a proposal for their spatial arrangement and structure. Main idea to be considered when defining the arrangement and structure of the facilities of nautical tourism is their compatibility. The Adriatic is a compact sea area, suitable for cruising. It is distinguished by specific geographic qualities, well indented coastline, abundant flora and fauna, favourable hydrographic-navigational and climatic conditions, and numerous tourist centres and ports of nautical tourism (Favro, Saganić, 2006). This is what distinguishes Croatia from its competition.

Aiming to ensure sustainable development and protection of natural resources, and achieve optimal regional socio-economic development, the existing classification and categorization of ports of nautical tourism needs to be adapted to established goals and planned results.

Furthermore, the structure of ports of nautical tourism needs to be adapted to different needs and types of leisure mariners. It is necessary to satisfy those with highest requirements and those most numerous (vessels 10-15 m). That is why standards of ports and marinas should not be defined according to the types of owners, but according to the requirements of service users. Most importantly, all facilities of nautical tourism must be planned and built in harmony with the environment, to be a resource in the economic infrastructure of the locality, for the benefit of local people. Besides the above mentioned spatial resources, it is necessary to define and provide all relevant development resources and their sources (human, financial, and information system). Regional development policy is necessary to encourage the use of local resources for the socio-economic prosperity of an area.

Every attraction may become superfluous. It must therefore be supplied with additional values and facilities. One of these values is man (as an advantage or disadvantage). The resources must be improved through education and professional training of employees.

## 4. NAUTICAL ECONOMY – NAUTICAL TOURISM AND COMPLEMENTARY ACTIVITIES

Croatia strives to rebuild tourism because of its decisive importance to the economy. The major problem of Croatian tourism is its large concentration in a short period of time. In recent times, of all tourist resources, nautical tourism becomes more and more attractive and increasingly important.

### 4.1. Spatial definition of nautical tourism

In Croatia, marinas used to be built in the most attractive and most sensitive parts of the coast, including even national parks. It is therefore desirable, when defining the area and when planning new facilities, to consider the locations in devastated bays, where construction of marinas or tourist capacities within general recovery programmes might also have additional positive effects, e.g. providing employment opportunities for local inhabitants. Advantage of marinas over other berthing possibilities is admittance of a larger number of vessels in the same place, and a higher level of environment management to be incorporated into the operation of marinas.

Protection of the environment must be priority in the development of nautical tourism, as preservation of the natural environment is a necessary precondition for the future development of tourism, and consequently nautical tourism. In this connection, the *National Environmental Protection Strategy (NN 46/02)* lists the following priorities:

- Balanced and well-defined development, protecting and evaluating all resources.
- Strengthening and developing different new kinds of tourism (e.g. ecological tourism, instead of mass tourism).
- Better arranged time periods for tourism, offering tourist facilities over the longest possible period of the year.

Exceptional importance of nautical tourism for stimulating development and overall economy reflects in the following privileges (Kovačić, 2004):

- nautical tourism has the highest and strongest multiplicative effect, which might render it the first competitive product of Croatia in the world,
- it is a branch of tourism providing at least 180–210 days of operation a year, with more dynamic turnover of invested capital as compared with hotel capacities,
- lower investment for the same number of accommodation units,
- return on invested capital is almost twice as rapid as in other branches of tourism,



- bringing wealthier and more exclusive clients, which would encourage quality and improve image (to begin with, three marinas will be sufficient, each having a capacity of about 350 commercial berths, 20% for vessels over 10 m in length),
- comparative advantages, which are many, can be decisive for the development of nautical tourism as compared with the competitive Mediterranean countries.

Consumption by leisure mariners, especially by foreign ones, produces many direct and indirect effects on some economic entities, and on the country's economy as a whole. So, for instance, marinas as complex facilities offering a wide range of services often achieve a higher rate of profitability of the capital invested into their construction than the one invested into other kinds of tourism. Other branches of industry deriving benefit from nautical tourism are civil engineering, shipbuilding, and all those having indirect effects by selling their products through catering and commercial services to leisure mariners.

In the Croatian tourism turnover, nautical tourism accounts just for 8% of total tourist days. Nautical tourism, however, has more dynamic rates of growth than the stationary tourism (Favro, 2006).

For a long time, nautical tourism was underestimated regarding its resources and facilities, while basic guideline for the development of tourism was the construction of conventional accommodation capacities and orientation towards mass tourism. Today, tourist demand is oriented towards individualism, interest in environmental values, and love of adventure. In order to meet such market requirements, and because of perfect natural-geographical and maritime conditions, it is necessary to develop nautical tourism as the most promising kind of tourism.

#### **4.2. Complementary services in nautical tourism facilities – development status of the complementary services in the Croatian nautical tourism**

In the Croatian tourism turnover, nautical tourism accounts just for 8% of total arrivals or 2% of total tourist days. However, owing to favourable geographic position of Croatia in relation to emitting European countries, nautical tourism has more dynamic rates of growth than the stationary tourism (Favro, 2006).

In order to meet the requirements of their users, ports of nautical tourism should be organized so as to provide (Bošković, Favro, Kovačić, 2006):

- basic services,
- additional services.

The above mentioned services are provided to the participants in nautical tourism and to vessels.



Consumption by leisure mariners, especially by foreign ones, produces many effects (Jadrešić, 1978, 1997):

- direct effects,
- indirect effects for particular economic entities and for the country's economy as a whole.

Marinas, for example, as complex facilities offer a wide range of services and often achieve a higher rate of profitability of the capital invested into their construction than the one invested into other kinds of tourism. Other branches of industry deriving benefit are as follows (Favro, 2002):

- civil engineering,
- shipbuilding,
- all those having indirect effects by selling their products through catering and commercial services to leisure mariners.

It is believed that nautical tourism would have achieved better results, if its development had not been accompanied by certain weaknesses, such as (Bošković, Favro, Kovačić, 2006.):

- inadequate resources and incompetitive prices of nautical-tourist services as compared with other Mediterranean countries,
- relatively complicated registration paperwork,
- neglected status of nautical tourism in the inland waters.

At the present level of development of nautical tourism, just providing berth and basic services to leisure mariners is regarded to be history. Today, a berth in marina includes other services, such as (Jadrešić, 1978., 2001.): souvenirs shops, newspapers and publications, exchange services, phone and fax services, self-service shops and duty-free shops, boat rentals, sailing, diving and angling courses, and other offshore and onshore activities, servicing and repairs of vessels, sports equipment, meteorological and other information on weather and safety of navigation, medical services, cultural events and entertainments, etc. It should be emphasized that the services in marinas are used by higher spending customers, and they should be provided high-quality and diversified resources.

It is believed that rivers and lakes also offer great possibilities for the development of nautical tourism. The reason why these possibilities have not been realized so far is lack of facilities for accommodation of vessels, and of other services necessary for the development of nautical tourism in the inland waters. In order to increase the importance and quality of nautical tourism, emphasis should be laid on enrichment of the resources in direct or indirect relation to the ports of nautical tourism. It is expected that this could attract a greater number of leisure mariners, and encourage their stay in port.

It is thought that different factors should be involved in the preparation of the supply and in the reception of nautical tourists. This is a new marketing approach as regards resources and facilities, diversity, and discipline in the work of marinas and shops. Such marketing approach is the basis for the future development of nautical tourism and economy in Croatia. It can help increase the share of nautical tourism in the whole tourism turnover, and consequently in the whole economy. Indirect effects of such policy are expected to be reflected in the growth of entrepreneurship in the seaside localities near the ports of nautical tourism.

It is recommended that, in the context of globalization, and market events and changes, short and long term policies of the development of Croatian tourism, especially of nautical tourism, be examined as the vision of new systems, of developed new relationships, based on one's own values, but also on internationally transparent criteria and rules. Development and business efficiency is contained in the sustainable development paradigm, shifting the emphasis from the point of destruction caused by an uncontrolled construction to the point of a systematic and planned development.

#### **4.3. Nautical economy from concept to contradiction**

The state must develop a marine cadastre, including an organised database of the sea, maritime domain, and coastal zone, which would facilitate adequate decision making based upon the information on marine areas (underwater parks, type of sea bottom, vicinity of attractions like national parks, archaeological monuments, sunken ships, etc.). Such marine cadastre would make it possible to define the rights and obligations of a particular local community or county in its appertaining sea area. Important parameter in the multicriteria analysis of the coastal zone and islands for determining areas suitable for the development of nautical tourism must be a precisely defined methodology for defining ecological sensitivity of a particular sea area to the impact of nautical tourism. It is necessary to establish a methodology for observing and processing defined parameters, to ensure the control over the impact of the development of nautical tourism on the environment, which is the chief condition of a long-term sustainable development.

Despite the pronounced dynamics of the development of nautical tourism in the past period, the results are not equalled with the possibilities for its development in Croatia (Favro, 2002).

A well-organized system of nautical tourism in the Adriatic can become a driving force for the development of some neglected areas, which could attract investments through adequate evaluation of their natural and spatial potential. This would encourage employment and prevent further depopulation of rural areas along the coast, especially on islands. Several possibilities for the develo-

ment of complementary activities (Favro, Glamuzina, 2005), associated with the systematic development of nautical tourism, are given below:

- **WOODEN SHIPBUILDING** – a project to be realized in cooperation with the Croatian Forests and the Ministry of Economy, Labour and Entrepreneurship – to be equalized with the shipbuilding industry – subventions;
- **SPECIALIZED SECONDARY AND HIGHER EDUCATION** – adapting school programmes to suit the nautical tourism market: shipbuilding, vessel servicing, marina management, marketing;
- **ECONOMIC DEVELOPMENT IN ISLAND FREE-TRADE ZONES** – encouraging the production of equipment and facilities for the construction of capacities of nautical tourism in island factories with special incentives - pontoons, berthing and deck equipment, consumables, etc.;
- **DEVELOPMENT OF SMALL REPAIR SHIPYARDS** – reviving and setting up small island shipyards specialized for repair and servicing of leisure vessels;
- **SYSTEMATIC DEVELOPMENT OF MARICULTURE** – orientation towards a sustainable development of autochthonous mariculture joining for sale through nautical tourism capacities – restaurants, fish exchange;
- **REVIVAL OF AUTOCHTHONOUS PRODUCTION** – encouraging the return to authentic activities, and their sale through nautical tourism capacities: famous wines, Pag lace, sheep cheese, local culinary specialties, etc.;
- **SETTLING ISLANDS BY ENCOURAGING INVESTMENTS** – initiate a special state project to ensure incentives for the employment of local inhabitants in all activities of nautical tourism, particularly for settling islands with highly qualified personnel.

Nautical economy (nautical tourism and complementary activities) should be developed on the model of sustainable development of the littoral area, aiming to satisfy economic-and-social needs of the local community. This involves maintaining traditional activities like wooden shipbuilding, and developing new activities adapted to contemporary needs and requirements of leisure mariners.

Scheduled goals for the development of nautical tourism and their realization establish conditions for its optimal and efficient operation, by achieving best possible economic and social results with minimum environmental devastation, as its fundamental development orientation. The goals can be achieved through:

1. organizing the system of nautical tourism so that its management acts on behalf of all its parts, being efficient and clear, respecting general interests of the society, while keeping the necessary degree of autonomy in the business decision making at the level of business entities;
2. adopting necessary acts on the rights and obligations of participants in the system, including amendments – simplifying the system procedures, avoiding overlap of competences, and articulating the legal and economic status of particular entities;
3. regulating relations between the system and the environment – avoiding conflicts with other economic entities and individuals, improving relations of all participants in the system with local/regional administration/community;
4. privatization of the business entities in the system, where possible and justified, in order to maximize business efficiency, development and quality;
5. defining a database for the system management, in order to make established development decisions, through data collection, processing, and dissemination, defining parameters for the system monitoring;
6. ensuring continuous education of employees (introducing ISO standard - Quality management);
7. harmonizing laws with current EU legislation, and creating conditions for their implementation;
8. reducing administrative barriers by means of simplified procedures at arrival and stay;
9. adequate promotion of the system as a whole and at the level of its business entities.

It can be concluded that the established goals can be achieved by regulating and defining market conditions in order to increase investments into the quality and competitiveness of nautical tourism entities. Special emphasis should be given to the importance of integral management of coastal and marine areas, where the entire area should be considered as a system with mutual relations and influences, all the elements being interwoven together (Šimunović, Filipić, 1993).

## **5. NAUTICAL ECONOMY IN THE WORLD AND IN CROATIA**

Nautical economy has an increasing role and a growing importance for national economies. In addition to the production of luxury vessels, and equipment for vessels and marinas, revenues are also received from the activities

developed to provide services to leisure mariners. Recently, in Croatia, there is a growing interest in different activities related to nautical tourism, but the fact remains that the leading Mediterranean countries still make the greatest profit from nautical industry.

Natchez, in his paper on the development of nautical industry in the 21<sup>st</sup> century (1999), discusses the rapid development of nautical tourism and globalization changes in the world. The author lays emphasis on changing demands of leisure mariners, pointing at the importance of examining past development to get a better insight into the present activities, for better future planning of the development of nautical industry.

### **5.1. Nautical economy in the world – statistical indicators**

Statistical indicators for the small shipbuilding industry, collected from different sources, show that in 2002 and 2003 Italy took the place of Great Britain to become a leading nautical industry in Europe, aiming to take over the world lead from the USA. Financial indicators show a great advantage of the United States, but Italian nautical industry continues to grow. Italian market spreads, both at home and abroad. Total value of nautical industry in Italy (2004), specifically of the shipbuilding and production of engines and equipment, reached 2,24 thousand million euro. As compared with 2003, the increase is about 7 percent. The value of the nautical shipbuilding alone is 1,87 thousand million euro, 8,7 percent greater than in 2003. In 2004 and 2005, the value of nautical shipbuilding in the United States was almost five times as great, reaching 8,82 thousand million euro. The advantage of the US nautical industry is particularly evident in the engine production, where Italy's revenue is 87 million euro. The production of marine engines in the United States, both inboard and outboard ones, is incomparably stronger. For a comparison between the two leading powers in nautical industry, some additional statistical indicators should be mentioned. The USA has 1.100 nautical shipyards with average revenue of 8 million euro. Italy, though having two leading yacht shipbuilders in the world, has also many small shipbuilders, a total of 770 shipyards with average revenue of 2,42 million euro. In 2005, Italy recorded a growth in nautical industry of 6,5 percent, which is worse than 2004.

Nautical fairs have a great promotional significance for the development of nautical economy and nautical tourism, both in the world and in Croatia. In 2007, Marina Port Vilanova was presented at the Barcelona Boat Show. It is the first marina in Spain and in the Western Mediterranean to be equipped with berths and other infrastructure for providing services to super yachts and mega yachts only. Marina will open in the summer 2009, and the sale of 75 berthing places started at the Barcelona Boat Show. At Port Vilanova, all necessary services and technical support will be available to owners of mega yachts (20 to 60 m in length). Port Vilanova will be one of the most advanced and most

prestigious European marinas. Its construction is an important step in the development of tourism and nautical industry in Catalonia, and in Spain as well. As Barcelona is the best location for such a marina, owners of super yachts as well as many renowned companies showed great interest during the fair. The area of marina covers 100.000 square metres, of which over 30.000 square metres is intended for repairs and fitting out of ships. Among other things, marina is equipped with two mobile cranes with carrying capacities of 100 and 800 tons respectively. Despite the fact that it covers a large area both in the sea and on land, and great investments, Marina Port Vilanova expects high revenue from berths and services to be provided to leisure mariners.

Growing revenue from nautical economy and increased interest in the construction of new marinas is the subject of study for many authors around the world and in Croatia. In their papers they discuss practical problems concerning the design, equipment, and location of marinas. So, Koelbel, H. W. (1999), and Stone, R., (2005), give recommendations for the design and construction of marina suprastructure, warning that the growing production and design of larger vessels also requires a different approach in the construction of marinas. Italian author Conti M., discusses practical problems such as the selection of location and the concept of placement of nautical ports, mentioning different interests and requirements in the decision making about locations of nautical ports. Selection of location, according to him, should be examined from different aspects, to reconcile the owners' requirements for economic efficiency with those of leisure mariners for a high-quality service. The author further (2005) compares the advantages of restructuring and reconstruction of existing marinas with the construction of new marinas. He believes that the reconstruction of existing marinas or small nautical ports is often a better choice than the construction of a new marina. This is reflected in lower costs of the site preparation and infrastructure development, as well as in the benefits provided by the existing location in terms of overall supply, traffic accessibility, etc.

## **5.2. Nautical economy in Croatia – status and possibilities for the development**

According to the data obtained from the Croatian Chamber of Economy, in 2005 Croatia had 49 nautical shipyards, with 766 employees. In 2004, they built 1.034 vessels, of which 508 with outboard engine propulsion, 246 with inboard and outboard propulsion, 239 inflatable boats, and 41 sailboats. Taking into account its population, Croatia is at the level of Italy. Majority of Croatian production involves smaller vessels, so that a total value of the Croatian nautical industry can be estimated at several dozen millions of euro. Construction of mega yachts is expressed in modest figures. Italy has a leading role in that kind of nautical industry. In 2004, just 507 vessels longer than 24 m were built all over the world. Until the end of 2005, according to order books, 651 such vessels were built – 592 yachts and 59 sailboats. Of that, Italian shipbuilders were commissioned for 249

constructions. In 2004, Italy built 189 mega yachts, and the previous year 178 ones. In 2005, the USA had 97 commissions, and most mega yachts in the USA (99) were built 2002. Among the five top world's shipbuilders of mega yachts are the Netherlands, New Zealand, and Great Britain.

Among Croatian nautical shipyards, it is necessary to mention Donat Boats shipyard founded in 1997, majority-owned by the Tankercomerc holding company, engaged in the production and repair of boats for sports and recreation, having 28 employees. Its production line includes the following vessels: Donat 800, Filo working vessels for operation in heavy conditions, Calafuria Scorpione 950, and Calafuria 595. By constructing a new and attractive marina in the centre of Zadar, Tankercomerc holding enters the world of nautical and catering tourism. Basic activity has been extended to the wholesale and retail trade, ship supply, providing services in nautical tourism, fishing and fish processing, catering, meat processing and meat products, storage and transport of liquid goods, construction and repair of ships and boats for sports and recreation, and freight business.

Croatian nautical economy is promoted at nautical fairs at home and abroad. Having recognized the market need for a specialized nautical fair in autumn period, aware of its own potential, and encouraged by its partners, Nautical Centre Prgin initiated its own fair, entitled Adriatic Boat Show. Project team and organizational committee of the fair are working hard to establish partner relationships with Croatian and international nautical groupings and other trade associations, in order to contribute to its development and internationalization. In the limelight of the Adriatic Boat Show stands Croatian nautical industry: production of sailboats, catamarans, fisherman, fishing boats, and other smaller vessels. Other exhibitors at the fair are representatives of world-renowned brands of sailboats, fisherman, motorboats and motor yachts. The fair will be accompanied by first promotions of new vessels and sale of second-hand vessels, presentations of sponsors and partners, workshops and seminars, lectures and conferences on the shipbuilding industry, marinas, fishing and diving, as well as competitions and presentations of the latest trends in the nautical industry and water sports. As professional and recreational fishing becomes more and more important for the nautical market, and so far has not been adequately presented to the public, Adriatic Boat Show gives it a special position in the exhibition programme. Among greatest attractions for the visitors are mega yachts. Adriatic Boat Show aims to establish itself, in the next three to five years, as the most important autumn nautical event in Croatia and neighbouring countries. The fair will not only establish the professional event itself, but it will also strongly contribute to tourist-and-industrial development of the city of Šibenik, to promotion of the Šibensko-Kninska County and of the whole Dalmatia. In parallel with the Adriatic Boat Show, Nautical Centre Prgin in partnership with the City of Šibenik works on the project of new tourist complex Hotel Šibenik and construction of the first specialized marina for mega yachts in the Adriatic.



## 6. SOCIOLOGICAL-ECONOMIC EFFECTS OF THE DEVELOPMENT OF NAUTICAL TOURISM

Special importance, in increasing overall economic effects of nautical tourism, is given to the improvement of social and economic living conditions for local inhabitants of coastal and islands areas. According to Robinson (2002), interdependence between the development of nautical tourism and the development of local community becomes an increasingly important link in the development of nautical economy.

By defining development strategy for nautical tourism in Croatia, to be based upon the principles of sustainable development, necessary conditions will be established for achieving the following goals (Favro, Saganić, 2006):

- **Tourism** as economic sector *has benefited most from the development of one its segment – nautical tourism*. All positive effects to be attached to nautical tourism can also be attached to tourism in general.
- **Catering industry** through the development of nautical tourism has been given a chance of *expansion and specialization*. If it had not been for the growth of nautical tourism, it is unlikely that small island restaurants with famous delicacies would have ever developed in the most attractive nautical destinations. Many individuals have not only expanded their existing catering capacities, but also invested into new ones. Small, almost abandoned island localities have been restored to life and reconstructed. The number of those who reconstruct the neglected heritage – buildings and crops – grows every day as a result of increasing visits of tourists, especially on islands.
- **Accommodation capacities** – Nautical tourism has had an indirect influence on increased accommodation capacities in the coastal zone and on islands. Some leisure mariners, predominantly higher spending ones, wishing to experience the stunning beauty of the Croatian archipelago, prefer luxury hotels in picturesque environment rather than sleeping onboard their vessels. In this way, nautical tourism has influenced an increase in accommodation capacities in the seaside places and on islands.
- **Service activities** – It has already been mentioned that nautical tourism encouraged the development of *many service activities* which are either directly or indirectly associated with the need to provide different services to leisure mariners. This particularly refers to *fisheries* whose development is indirectly influenced by an increased demand for fish and consumption of seafood in restaurants, for different nautical services, etc.

- **Employment** – The development of nautical tourism has certainly provided *greater opportunities for the employment* of local labour (occasional, part-time, seasonal or permanent), consequently influencing increase in the living standard, and prosperity of families in general, providing opportunity for the development and revival of different activities specific for particular regions.
- **Direct and indirect effects on different activities** - Direct effects of nautical tourism are first of all connected with employment of local labour, encouragement of different service activities linked with the need to provide services to leisure mariners (servicing vessels and engines, equipment, catering, supply, etc.), while *indirect effects* are many. Interest for cultural events and sightseeing tours of coastal and island places should also be emphasized.
- **Short-term consequences and influences** – It may be said that the development of nautical tourism has had a short-term influence and *specific economic and social consequences* on the local and wider environment. First of all, it encouraged the development of many accompanying activities, whose development started soon after the beginnings of nautical tourism (first services, initial employment of local labour, expanding the existing catering facilities and opening new ones, etc.).
- **Long-term consequences and influences** – Most important long-term consequences and influences of the development of nautical tourism are as follows:
  - o restructuring and evaluating new development options in a particular county, community or place, as well as at the state level, starting from some traditional aspects (industry, manufacturing industry, shipbuilding) to the development based upon nautical tourism
  - o development – of economic activities directly or indirectly connected with nautical tourism as chief development potential – nautical economy (Favro 2002).

In terms of the above mentioned statements, overall tourist industry came to be viewed *as chief economic potential*, with nautical tourism playing a significant role in it. Increasingly, nautical tourism is considered to be one of the greatest driving potentials for the development of Croatia.

By expanding the capacities of nautical tourism, it is expected that the employment of local inhabitants will continue to grow, having predictable economic and social consequences (Favro, Saganić, 2006), as follows:

- increased number of persons to be *directly employed* in this activity (marinas, berthing places, boat harbours)

- increased number of persons to be able indirectly – encouraged by the development of nautical tourism – to find employment in some activities which are *directly or indirectly* connected with nautical tourism
- *changed motivational aspects of employment* – permanent or temporary – with other family members who will find motivation to get employed in different activities *indirectly or directly connected with nautical tourism*: providing services to leisure mariners in marinas – laundry service, sale of souvenirs, sightseeing tours, joining leisure mariners in typical local activities – agriculture, wine-growing and olive growing / grape-gathering, possibly olive picking, organizing biking tours, fishing and learning about fish and seafood processing, etc.)
- growing employment of local inhabitants might have a positive influence on *reducing the intensity of emigration* from islands, as it would give inhabitants reasons for staying on islands
- increased general level of standard and culture of living in the coastal area, especially on islands
- increased level of general education of population in the coastal area and on islands
- increased general level of equipment of communal and other installations in the coastal area and on islands.

Sustainable development of nautical tourism in Croatia will certainly initiate *the development of some other activities* typical of the coastal and island areas. Accordingly, it is quite clear that the influence of future development of nautical tourism in Croatia can be considered as *a continuous process of economic and social strengthening* in often isolated and neglected destinations. Some of the most important economic activities which are likely to get revitalized and strengthened are as follows:

- shipbuilding industry
- repair shipyards
- service of vessels and engines, sails, equipment and accessories
- *revival of forgotten crafts and skills* (weaving, clothes making, olive growing, honey production, drying up fish, fruit, and vegetables, etc.), not only as additional sources of income through the sale of products to tourists, but also as feedback – useful revival of economic activities which might initiate many other unmentioned activities
- activities (still) untypical of the present development of tourism in Croatia, which could be initiated by the future development of nautical tourism:
  - o adventure tourism

- o specific kinds of catering industry
- o manufacture and sale of souvenirs typical of a particular region.

It is evident from the above presented, that the development of nautical tourism can be viewed not only as *a process of social change* of living conditions in nautical destinations, but also as an encouraging process which can influence a change in social and economic structure of the activities in the coastal area and on islands.

## 7. CONCLUSION

Croatia has one of the most attractive and best indented coasts in the world. The Adriatic Sea with its coast and islands, whose value has been recognized worldwide, is an important basis for the economic development of Croatia, especially of its Littoral. However, this major natural resource has not achieved its adequate and sufficient economic evaluation, and its past development was not sufficiently oriented to the protection of environment. In the summer season, some parts of that resource become saturated with tourism, so that its future development should be directed to harmonize with the principles of sustainable development. Untouched or non-industrialized parts of the Croatian coast, which have provided it with the epithet of an attractive nautical destination, need to be given a planned protection, to prevent that the ecological and natural balance of this area become endangered by uncontrolled construction of receptive capacities for leisure vessels.

Main geographic characteristics of the Croatian littoral area, according to the criteria for defining favourable conditions for the development of nautical tourism, have important comparative advantages for its development. Natural geopotential of the Croatian sea area ranks Croatia among top nautical destinations. An outline of the complementary activities in nautical tourism emphasizes the possibilities for its development in the Croatian sea area. It is logical to conclude that there is a need and necessity to unite these complementary activities within the economic system, by introducing the concept of „nautical economy“. This is necessary in order to achieve a synergic effect of the nautical economy on the overall socio-economic image of the Croatian littoral area, especially of islands which are characterized by unfavourable demographic and economic trends. This will provide opportunity to Croatia for convergence towards Mediterranean countries, the leaders in the nautical industry, especially regarding its shipbuilding industry.

**BIBLIOGRAPHY**

- [1] Bošković, D., S. Favro, M. Kovačić, Evaluating the Significance of Nautical Tourism for Tourism and Economy, 25<sup>th</sup> International Conference on Organizational Science Development, Portorož, 2006.
- [2] Conti, M., Economical Comparison Between A New Built and a Rehabilitated Marina, Italy, 2005., Internet 20.03.2008. <http://www.icomia.com/library/introduction>.
- [3] Favro, S., Joining of Croatia in the Development of the European Nautical Tourism, First European Yacht Tourism Congress, Rogoznica, 2002.
- [4] Favro, S., N. Glamuzina, N. (2005.): Contemporary Problems of Nautical Tourism Development in Croatia, *Promet*, 17(2005), 2, str. 107-112.
- [5] Favro, S., I. Saganić, Sustainable Development of Nautical Tourism in Croatia. „New Perspectives and Values in World Tourism & Tourism Management in the Future“, Turk-Kazakh International Tourism Conference, Alanya, 2006. Book 1, 602-620.
- [6] Jadrešić, V., Nautički turizam, Zadar, Pedagoška akademija, 1978.
- [7] Jadrešić, V., Hrvatski nautički turizam - između danas i sutra, *Turizam*, 45(1997), 11-12, str. 111-123.
- [8] Jadrešić, V., Turizam u interdisciplinarnoj teoriji i primjeni, zbornik istraživanja, Zagreb, Školska knjiga, 2001.
- [9] Koelbel, W. H., Boat Design Reflected in Marine Design, United States, 1999. Internet 20.03.2008. <http://www.icomia.com/library/introduction.asp>.
- [10] Kovačić, M., Model organizacije sjevernojadranskih luka nautičkog turizma u funkciji održivog razvoja, magistarski rad, Rijeka, M. Kovačić, 2004.
- [11] Natchez, D., How the Marina Industry can Better Prepare for the Millennium, 1999. Internet 20.03.2008. <http://www.icomia.com/library/introduction.asp>.
- [12] Ridanović, J., Geografija mora, Samobor, Hrvatski zemljopis – Naklada dr. Feletar, 2002.
- [13] Robinson, P. J., Marinas and Social Demands, Australia, 2002. Internet 20.03.2008. <http://www.icomia.com/library/introduction.asp>.
- [14] Stone, R., Guidelines for Car Parking at Marinas and Launching Ramps, 2005. Internet 20.03.2008. <http://www.icomia.com/library/introduction.asp>.
- [15] Šimunović, I., P. Filipić, O ekonomiji obalnih područja, Split, Ekonomski fakultet u Splitu, 1993.

### *Sažetak*

## **NAUTIČKO GOSPODARSTVO TEMELJ SUSTAVNOG RAZVOJA NAUTIČKOG TURIZMA**

*U radu se istražuje nautički turizam te se ukazuje na važnost učinkovitog upravljanja nautičkim turizmom kao sustavom. Nautički turizam je složeni sustav u kojemu treba primjenjivati sve zakonitosti opće teorije sustava i načela upravljanja integriranim složenim sustavima, pa je cilj istraživanja autora utvrditi bitne elemente i značajke nautičkog turizma Hrvatske.*

*Hrvatska ima vrlo povoljne prirodne uvjete za razvoj nautičkog turizma, kao što su duga obalna crta, veliki broj otoka, otočića i zaljeva pogodnih za nautičare te povoljne klimatske i hidrografske uvjete koji također pogoduju njegovu razvoju. Uz osnovne prirodno-prostorne uvjete i mogućnosti razvoja nautičkog turizma, poseban značaj ima razvoj komplementarnih djelatnosti. Autori istražuju mogućnosti razvoja tih djelatnosti te definiraju pojam nautičkog gospodarstva kao temeljnu odrednicu daljnjeg razvoja nautičkog turizma. Posebno ukazuju na značaj razvoja komplementarnih djelatnosti na otocima.*

***Ključne riječi:** sustav, nautički turizam Hrvatske, komplementarne djelatnosti, nautičko gospodarstvo, razvoj otoka*

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