

Multi-Criteria Nautical Ports Capacity and Services Planning

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Abstract : This paper is a result of implemented research on proposed introduced methodology for nautical ports capacity planning by introducing a multi-criteria approach of defined criteria and impacts at the Adriatic Sea. The purpose was analysing the determinants -characteristics of infrastructure and services of nautical ports capacity allocated, especially nowadays due to COVID-19 pandemic, as crucial for the successful operation of nautical ports. Giving the importance of the defined priorities for short-term and long-term planning is essential not only in terms of the development of nautical tourism but also in terms of developing the maritime system, but unfortunately, this is not always carried out. Evaluation of the use of resources should follow from a detailed analysis of all aspects of resources bearing in mind that nautical tourism used resources in a sustainable manner and generate effects in the tourism and maritime sectors. Consequently, the identified multiplier effect of nautical tourism, which should be defined and quantified in detail, should be one of the major competitive products on the Croatian Adriatic and the Mediterranean. Research of nautical tourism is necessary to quantify the effects and required planning system development. In the future, the greatest threat to the long-term sustainable development of nautical tourism can be its further uncontrolled or unlimited and undirected development, especially under pressure markedly higher demand than supply for new moorings in the Mediterranean. Results of this implemented research are applicable to nautical ports management and decision-makers of maritime transport system development. This paper will present implemented research and obtained result-developed methodology for nautical port capacity planning -port capacity planning multi-criteria decision-making. A proposed methodological approach of multi-criteria capacity planning includes four criteria (spatial -transport, cost - infrastructure, ecological and organizational criteria, and additional services). The importance of the criteria and sub-criteria is evaluated and carried out as the basis for sensitivity analysis of the importance of the criteria and sub-criteria. Based on the analysis of the identified and quantified importance of certain criteria and sub-criteria, as well as sensitivity analysis and analysis of changes of the quantified importance, scientific and applicable results will be presented. These obtained results have practical applicability by management of nautical ports in the planning of increasing capacity and further development and for the adaptation of existing nautical ports. Obtained research is applicable and replicable in other seas, and results are especially important and useful in this COVID-19 pandemic challenging maritime development framework.

Keywords : Adriatic Sea, capacity, infrastructures, maritime system, methodology, nautical ports, nautical tourism, service

Conference Title : ICMTI 2022 : International Conference on Maritime Transport Infrastructure

Conference Location : Barcelona, Spain

Conference Dates : March 03-04, 2022