



ENVIRONMENTAL IMPACT ASSESSMENT OF COASTAL ZONE

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Foreword

- ◆ The development must correspond to the demands, complying with governance measures and pollution prevention.
- ◆ Coastal areas are subject to interventions by property developers in transport and tourism sector.
- ◆ Projects must be contemplated as a function of the quality of life, well-being of local community, and the preservation of natural and cultural heritage.
- ◆ Environmental impact in coastal zone of nautical tourism seaports is significant and that is the reason for developing the system that ensures permanent research and monitoring in order to preserve the environment and ecosystems.
- ◆ Each nautical port has specific sensitivity, operating in a different natural, social, and cultural environment. In order to achieve high level of marine environment protection, it is necessary to take the measures of prudence, prevention, as well as reasonable and rational use of marine natural resources.
- ◆ The best practice commands for the application of precautionary principle, i.e. mitigation should be based on the possibility of a significant impact even though there may not be conclusive evidence that it would occur. That can be achieved through ex-ante assessment of potential significant negative impacts.

Development impacts

- ◆ Coastal areas in Croatia are subject to interventions by property developers in pristine places where natural land cover is removed or in agricultural areas implies also the provision of water supply, wastewater treatment and waste management facilities, road networks, which further contribute to local land cover change, consume precious resources and discharge emissions to the air, land, water and the sea, thus impairing entire ecosystems in the area.
- ◆ Besides ecological there are also social impacts affecting people and communities in which they live as a result of tourism-related projects involving changes to community values and/or the way the community functions, impacts on communities' quality of life (air quality, noise levels etc.) and impacts on their culture and history.
- ◆ While it is expected that nautical seaports comply with the highest environmental standards since the reason of their very existence is natural beauty and attractions of coastal areas where they are sited, that is not the case. The pollution impact of nautical tourism seaports is significant (air and seawater pollution, chemicals, impermeable land).

Regulatory requirements

- ◆ Nautical tourism in the Republic of Croatia is defined as sailing and staying of tourists on board of yachts, boats and cruisers for personal and business purposes, as well as berthing in nautical ports and nautical ports open to public transport for pleasure, recreation/leisure and cruises.
- ◆ The yachts and small boats present an impact in the form of oil escape from engines, action of anti-fouling paints, of propellers in shallow waters and noise. Direct pressures on coastal zone are related to infrastructure construction such as roads, parking places, airports, marinas, jetties, mooring, hotels, waste and sewage, resource use and wildlife interaction.
- ◆ According to Croatian legal framework requirements, ports for nautical tourism are classified by type as anchorage, mooring, dry storage marinas and marinas, it being determined by the type of services rendered at a certain port. Each type of port for nautical tourism, depending on the services rendered, must comply with prescribed minimum and special standards regarding its construction, appearance and equipment.

Sanitary waste waters pollution

- ◆ Sewage or black water covers discharges and other residues from all kinds of water closets (lavatories), urinals and toilets, discharges from sinks, bathtubs and other installations in medical area (infirmary, hospital, etc.), discharges from livestock spaces and other waste waters, if they mix with the above-mentioned discharges.
- ◆ On the other hand, grey water is a waste water from laundry and accommodation which includes waste waters from sinks, showers, bathtubs and their discharges except for the abovementioned water, waste waters from laundries and waste waters from washing provisions, kitchen appliances and food stores and restaurants.
- ◆ Sewage produced onboard is discharged directly into the sea, thus presenting a risk from pollution of the sea surface layer by sewage in coastal tourist areas, on beaches and in bays during summer months when boat and yacht traffic is increased.
- ◆ According to Croatian Maritime Code boat is a vessel intended for navigation at sea certified to carry no more than 12 passengers, hull length of which exceeds 2.5 metres, but no more than 15 metres, or total power of propulsion machinery exceeding 5 kW. Yacht is a vessel intended for sports and recreation, whether used for personal needs or commercial activity, the hull length whereof exceeds 15 metres, is designated for longer stay at sea, and is apart from the crew certified for carrying up to 12 passengers.
- ◆ The most important international regulation dealing with the problem of sea pollution from vessels is the International Convention for the Prevention of Pollution from Ships (MARPOL), 1973/78, as amended. In its Annex IV it covers only ships operating on international voyages having the capacity of 400 gross tonnage and above; or less than 400 gross tonnage when certified to carry more than 15 persons. Even in that case the ship is allowed to discharge sewage which is not comminuted and disinfected only at a distance of more than 12 nautical miles from the nearest land at moderate speed when the ship is en route and proceeding at not less than 4 knots .
- ◆ Pollution by sewage wastewaters from a larger number of smaller vessels that are not subject to mentioned legal regulations may be higher in quantity than from larger vessels that have installed and utilize sewage treatment plants as prescribed by law. Also, the quantity of sewage produced onboard is directly related to the number of persons onboard, and not the size of the vessel.

Neminem laedere

- ◇ Environmental impact assessment along with neminem laedere (no-harm) and precaution represent legal principles in marine environment protection.
- ◇ United Nations Conference of the Law of the Sea (UNCLOS) focusing on marine pollution identifies certain types of causation processes, including from land-based sources, the air, dumping, vessels, and installations.
- ◇ Addressing the marine environment in general, UNCLOS includes not only transboundary pollution but also causation chains within one national jurisdiction to areas beyond national jurisdiction .
- ◇ No-harm imperative has the status of international customary law. It has its origin in the early years of environmental law when it grew out of police law that was based on restrictive preconditions of state interventions.
- ◇ The first step was to acknowledge that if the potential effect is disastrous, preventive measures must be taken if the event is uncertain or unlikely.
- ◇ The precautionary principle is a guiding principle that provides helpful criteria to determine the most reasonable course of action in confronting situations of potential risk. It is an open-ended and flexible principle which creates a possibility and an incentive for social learning.
- ◇ The best practice commands for the application of precautionary principle, i.e. mitigation should be based on the possibility of a significant impact even though there may not be conclusive evidence that it would occur.

Environmental impact assessment

- ◆ The procedure of environmental impact assessment (EIA) is briefly defined by the United Nations Economic Commission for Europe (UNECE) as an assessment of the impacts of a planned activity on the environment.
- ◆ The definition by the International Association for Impact Assessment in 2009 states that it is the process of identifying, predicting, evaluating and mitigating the biophysical, social and other relevant effects of proposed development proposals prior to major decisions being taken and commitments made.
- ◆ It is a process consisting of the preparation of an EIA report by the developer, the carrying out of consultations, the examination by the competent authority of the information presented in the EIA report, the reasoned conclusion by the competent authority on the significant effects of the project on the environment, and the integration of the competent authority's reasoned conclusion into any of the decisions.

- ◆ Simultaneously with facilitating sustainable economic activities in the area of maritime demesne, all citizens should be granted in an equal and equitable way the use of coastal area, provided its designated purpose is respected.
- ◆ Therefore, the investment coastal areas command for prior comprehensive analysis of all pressures on the environment and impacts on the locals.

Ex-ante impact analyses

- ◆ The projects that may have significant impact on marine environment, and which are subject to compulsory EIA carried out by the competent Ministry are set out in Annex I of the EIA Regulation among them being the sea ports open for public traffic of particular (international) economic interest for the Republic of Croatia and sea ports for special purposes of significance for the Republic of Croatia under *lex specialis*.
- ◆ The projects assessed with regard to significance of their impact on marine environment for which the screening procedure is undertaken by the competent Ministry and defined in Annex II of Regulation involve among others sea ports with more than 100 berths, all interventions involving sea coast backfilling, deepening and sea bottom draining as well as constructions in and at the sea with length of 50 m and above, and tourist zones with 15 ha area and above outside the limits of construction site of the settlement.
- ◆ The screening is carried out on the basis of a screening report whose content is set out in Annex VII of the Regulation. Integral part of environmental report or screening report is conceptual design which comprises textual statement of reasons and graphic view of an undertaking.

Ex-ante impact analyses

- ◆ Depending on site and characteristics of the project competent authority is obliged to seek opinions from the authorities and/or persons set out under *lex specialis* and/or local and regional self-government units on the significance of the impact on component of the environment or load on the environment, from within the scope of their competence
- ◆ The criteria establishing whether the project should be subject to EIA, or on the basis of which the decision on the necessity of undertaking EIA procedure is taken (Annex V of the Regulation) concern characteristics of the project, location of the project, and nature and type of potential impact of the project.
- ◆ Should it be ascertained that significant environmental impacts are likely, the obligation to implement the EIA procedure is prescribed. Where established that environmental impacts are not significant, the environmental protection measures may be prescribed as well as the environmental state monitoring programme, but no obligation to implement the EIA procedure is prescribed.

Ex-ante impact analyses

- ◆ The terminology regarding EIA/screening procedures undertaken and listed on web page of the competent Ministry is not standardized by project types for statistics purposes.
- ◆ As a result, nautical tourism ports are often bear the name of various project titles such as pier or quay extension, port upgrading, port development, port reconstruction, harbour development, beach development, coast development, coastal belt development, nautical tourism port, modification of nautical tourist complex project, waters deepening, modification of nautical tourism complex project, etc.
- ◆ Only in 2019 there were more than 20 requirements for screening. Construction and reconstruction mainly concern piers, plateaus, extension or coast replenishment, dredging within port basin for achieving requisite depth to accommodate vessel draft, laying rubble mounds etc.
- ◆ In practice communicating with the public throughout the assessment procedure is implemented in such a manner that the notification of planned intervention is posted on web page, followed by the notification on carrying out the public consultation accompanied by the report and non-technical summary. As for the screening procedure, communicating with the public is carried out by posting the notification concerning the request and screening report on web pages. The public may present the views on the report in course of 30 days from the date of posting the information note.
- ◆ The ‘no action’ of not proceeding with the project is an option that is very rarely applied, although it would in many be justified had all the regulatory criteria be properly applied.

Conclusion

- ◆ Tourism development must be contemplated as a function of the quality of life, well-being of local community, and the preservation of natural and cultural heritage. In addition, non-holistic approach could result in tourism that is no longer viable and can only be maintained through considerable financial effort or at lower profit margins.
- ◆ East Adriatic coast has features that do not require substantial investments for providing nautical ports berth capacity, as there is sufficient depth, indented coast with sheltered bays, and rocky shoreline.
- ◆ On the other hand, Croatia has enormous natural capital which it must strive to preserve in the interest of its inhabitants and visitors, sustainability of ecosystems and the resulting economic profit in long-term. Thus, in order to prevent devastation and degradation of its coastal resources, Croatia should place particular emphasis on the considerations of acceptability for the environment and society of individual projects for which the environmental impact assessment/screening procedures are compulsory, nautical ports being among them.
- ◆ Protected areas should be managed properly, but in no way be confined, leaving the surrounding areas that is no less attractive subject to much less regulation with regard to land use, emissions and natural resource exploitation, and waste that threatens precisely the protected areas.

Conclusion

- ◆ The administrative decisions issued by the Ministry establishing that for a particular project it is not necessary to carry out the EIA procedure must state main reasons for which the assessment is not required, along with reference to respective criteria set out in Annex V of the Regulation.
- ◆ Any EIA or screening report should incorporate surveys of population which could be affected by the project, meaning that local community would be involved in project planning in their area at the earliest stage.
- ◆ It would also be necessary to provide through appropriate cost-benefit analysis the elements for decision-making as to which tourist products such as nautical tourism (yachting and cruising), health tourism or other would represent a priority strategic goal for certain community and site.