ENVIRONMENTAL IMPACT ASSESSMENT – CHALLENGES IN COASTAL AREA

Axel Luttenberger, Ph.D., Full Professor with Tenure

University of Rijeka, Faculty of Maritime Studies

Foreword

- Coastal area represents that part of the land affected by its proximity to the sea and that part of the ocean affected by its proximity to the land.
- Coastal areas are under pressure of development projects.
- Each project is not only a business opportunity, it has specific sensitivity, operating in a different natural, social and cultural environment.
- While it is expected that projects 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.

Holistic approach

- We live in an era of extremely complex interdependence between environment and economy and of conflicting interests on a global and local scale.
- The integration of various areas of science and learning of conflicting social and economic systems and of ideas and values is a must today.
- We must deal with environmental issues in a holistic rather than a reductionist manner.

Socio-economic impacts

- Socio-economic impacts associated should also be included in EIA.
- Failure to address socio-economic issues can result in costly and delaying impacts or non-compliance with government policy and law, making the project vulnerable to interventions and possible impediments.

EIA framework

- Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, considering inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.
- EIA is a formal study process used to predict the environmental consequences of a proposed major development project.
- 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.

EIA questions

- Q1: What will happen as a result of the project? (Identification)
- Q2: What will be the extent of the changes? (Predictions)
- Q3: Do the changes matter? (Evaluation)
- Q4: What can be done about them? (Mitigation)
- Q5: How can decision-makers be informed of what needs to be done? (Documentation)

Q1: What will happen as a result of the project?

- There are a variety of methods which can be used to achieve this, depending on the type of project e.g. interactive matrices, checklists etc.
- Measurements and evaluations of impacts are often done and each is given a score considering magnitude, significance and benefits of the impact (both positive and negative).
- Socio-economic impacts associated with the environmental impacts are included here.

Q2: What will be the extent of the changes?

- Impact predictions will involve some measure of probability. In this respect, the study team should also indicate the degree of uncertainty, as far as possible.
- Scientific predictions should be based on each impact and its specific cause and effects.
- The degree of sophistication of the methods employed should be kept relative to the scope of the EIA.
- Socio-cultural impacts should be integrated wherever possible because of the importance of "how the community feels or will be affected".

Q3: Do the changes matter?

- Evaluation of the predictions are necessary in order to ascertain how significant they are.
- The judgment of significance may be based on one or more of the following:
  - laws, regulations or accepted standards,
  - consultation with relevant decision-makers,
  - consistency with government policy and
  - acceptance to the local communities and the public.

Q4: What can be done about them?

- A range of mitigation measures can be recommended for prevention or reduction of adverse impacts of a project.
- These include design alterations, site changes, routes etc; pollution controls. waste treatment, monitoring; compensation for damaged resources, concessions on other issues etc.
- Mitigation costs should be quantified in order to inform the decision-making process.
- These may be presented using techniques such as cost/benefit analyses or simple matrices showing mitigation options and the cost attached to each “adverse environmental parameter”.

Q5: How can decision-makers be informed of what needs to be done?

- In documentation, the original needs of the EIA must be kept in the fore.
- The EIA report must provide the key decision-makers (already identified as part of the process) with the “perceived questions” as well as “the straightforward answers”.
- Successful EIA reports are those which establish the question and answer approach at the start, showing how the research was focused in this direction.

Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (codification) as amended by Directive 2014/52/EU of the European Parliament and the Council of 16 April 2014

1. Characteristics of projects

The characteristics of projects must be considered, with particular regard to: (a) the size and **design** of the whole project; (b) the cumulation with other existing and/or approved projects; (c) the use of natural resources, **in particular land, soil, water and biodiversity**; (d) the production of waste;(e) pollution and nuisances; (f) the risk of major accidents having regard in particular to substances or technologies used and/ or disasters **which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge**; (g) **the risks to human health (for example due to water contamination or air pollution).**

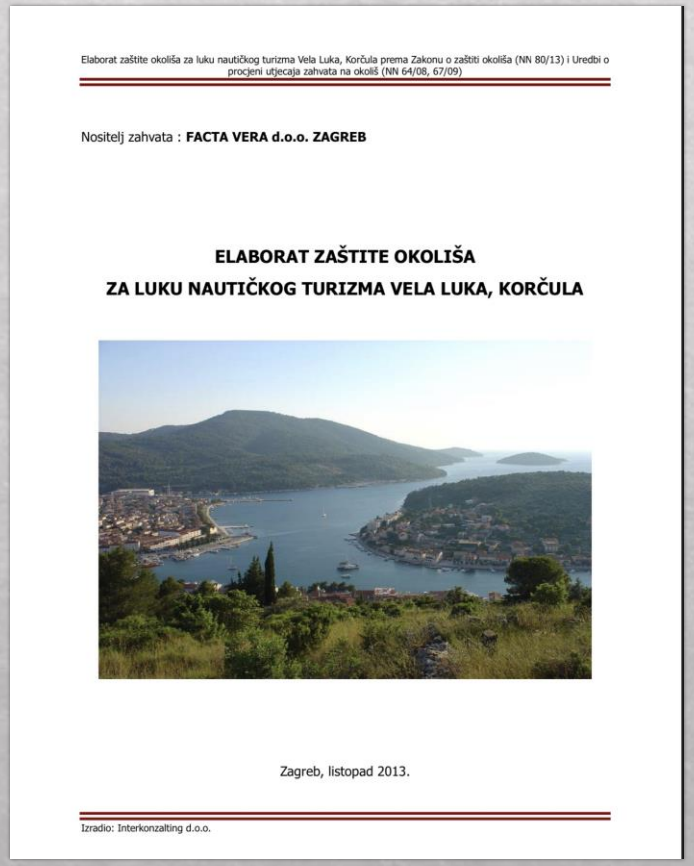
2. Location of projects

The environmental sensitivity of geographical areas likely to be affected by projects must be considered, having regard in, with particular regard to: (a) the existing and approved land use; (b) the relative abundance, availability, quality and regenerative capacity of natural resources **(including soil, land, water and biodiversity) in the area and its underground**; (c) the absorption capacity of the natural environment, paying particular attention to the following areas: (i) wetlands, riparian areas, river mouths; (ii) coastal zones and the marine environment; (iii) mountain and forest areas; (iv) nature reserves and parks; (v) areas classified or protected under Member States' national legislation; special protection Natura 2000 areas designated by Member States pursuant to Directive 92/43/EEC and Directive 2009/147/EC; (vi) areas in which there has already been a failure to meet the environmental quality standards, laid down in Union legislation have already been exceeded and relevant to the project, or in which it is considered that there is such a failure; (vii) densely populated areas; (viii) landscapes and sites of historical, cultural or archaeological significance.

3. Type and characteristics of the potential impact

The potential likely significant effects of projects on the environment must be considered in relation to criteria set out in points 1 and 2 of this Annex, and having with regard in particular to the impact of the project on the factors specified in Article 3(1), taking into account: (i) the magnitude and spatial extent of the impact (for example geographical area and size of the affected population likely to be affected); (ii) **the nature of the impact**; (iii) the transfrontier transboundary nature of the impact;(iv) the magnitude intensity and complexity of the impact; (v) **the probability of the impact**; (f) the expected onset, duration, frequency and reversibility of the impact; (g**) the cumulation of the impact with the impact of other existing and/or approved projects;** (h) **the possibility of effectively reducing the impact**.

Vela Luka


Elaborat zaštite okoliša za luku nautičkog turizma Vela Luka, Korčula prema Zakonu o zaštiti okoliša (NN 80/13) i Uredbi o procjeni utjecaja zahvata na okoliš (NN 64/08, 67/09)

Nositelj zahvata : **FACTA VERA d.o.o. ZAGREB**

ELABORAT ZAŠTITE OKOLIŠA
ZA LUKU NAUTIČKOG TURIZMA VELA LUKA, KORČULA

Zagreb, listopad 2013.

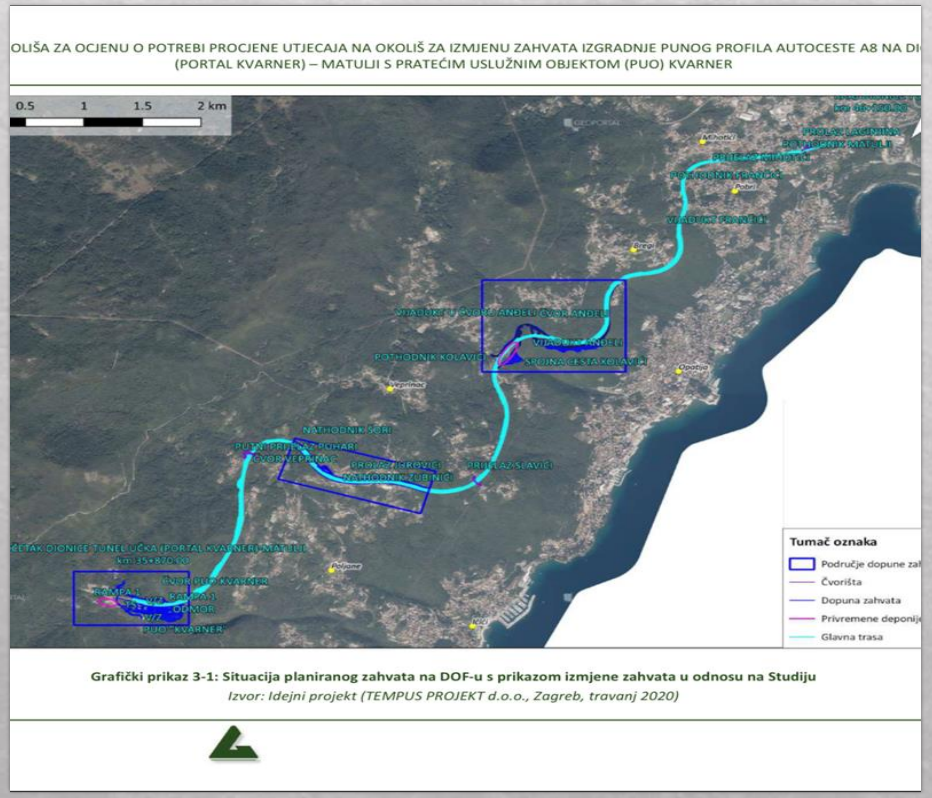
Izradio: Interkonzalting d.o.o.

- Vela Luka in the Republic of Croatia is situated in western part of the island of Korčula, in its largest bay that is indented as much as 9,2 km into interior of the island, between two narrow peninsulas.
- In 2013 screening procedure was undertaken with regard to construction of nautical tourism port with up to 200 berths capacity concluded in an administrative decision stating that is **not necessary to implement neither EIA nor appropriate assessment.**

Vela Luka

- The screening report placed unusually great accent on safety of the port situated in a naturally sheltered bay.
- It mentions that **weak circulation of seawater, relatively low bay depth and substantial solid waste found at sea bottom led to intense eutrophication and occasional anoxic states**.
- It claims that such a state is reversible by the construction of appropriate sewerage, which statement can hardly be associated with studying the impact of the marina.
- It also points out that although waters still preserve the **status of natural landscape**, natural characteristics of entire coast are devastated by the development and that preservation of posidonia is expected to maximum extent.
- Possible impacts **on air** during the use are of local character according to the screening report.
- There is no mention of the impact of **coatings and chemicals**.
- There is no mention whatsoever in the screening report of the **unique natural curative features** present in the narrow bay and the threat thereto from new nautical port sited in close vicinity. At minimum, undertaking of the environmental impact assessment procedure should have been decided in the screening process undertaken.

Učka



Grafički prikaz 3-1: Situacija planiranog zahvata na DOF-u s prikazom izmjene zahvata u odnosu na Studiju

Izvor: Idejni projekt (TEMPUS PROJEKT d.o.o., Zagreb, travanj 2020)

- The subject is a large construction works in a protected nature park with the decision of Ministry that there is **no need to carry out an environmental assessment** for the full profile motorway including significant changes in the protected area as a large accompanying service facility, route and node Veprinac and the Angeli node with an area of 320900m2.
- No one reasonable can argue that for the vast area it is not necessary to produce an environmental impact study with variant solutions on the slopes of the coastal area in the karst region, which belongs to the highly sensitive ecosystems and the park forest.

Učka

- The key factual document was not even considered which is the **Environmental Protection Study** for the assessment of the need for an environmental impact assessment to modify the construction of the full profile of the A8 motorway on the section of the Učka tunnel (Kvarner portal) - Matulji with accompanying facilities (PUO) Kvarner from May 2020, which itselfindicates the need to assess the environmental impact of the intervention.
- **Regulation on environmental impact assessment (OG 61/14, 3/17) Annex IV List of procedures for which an assessment of environmental impact of the procedure is mandatory**
  - 14.Construction of motorways
  - 15.Construction of state roads

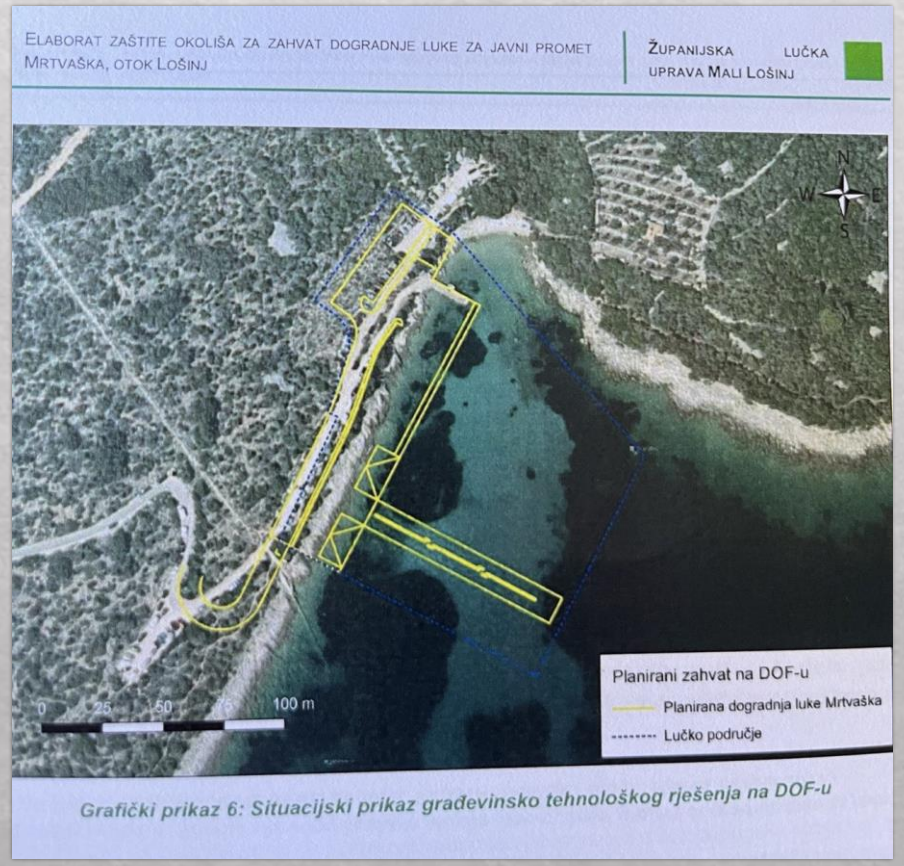
  The existence of that Annex did not consider at all.
- **Regulation on Environmental Impact Assessment (OG 61/14, 3/17) Annex V Criteria on the basisi of which the need to assess the environmental impact**

  The existence of that Annex has been ignored, although a characteristic and location of the procedure, an environmental impact assessment is mandatory.

Učka

- The position of the Ministry is that they refer to some documents from 2011, i.e. before the entry into force of the Regulation on the Assessment of the Environmental Impact of The Procedure (OG 61/14, 3/17). Namely, it is indisputable that the previous document was drafted in 2011, that is, before the accession of the Republic of Croatia into the European Union on 01.07.2013, and that since then the acquis in this area has been significantly improved in the field of environmental protection.
  - Therefore, **they disregard what the applicable law** is at the time of this decision and what the evolution of law took place.
- **The area of the intervention is significantly increased** compared to the 2011 study (more than four times).
- **In 2014, the Regulation on assessment of acceptability for the ecological network was enacted.**
  - What is the ground for the Ministry decision that is not necessary to evaluate the acceptability of this procedure on the ecological network?

Mrtvaška



Grafički prikaz 6: Situacijski prikaz građevinsko tehnološkog rješenja na DOF-u

- The existing 12-metre pier is used for docking smaller boats on the island of Lošinj in the vicinity of the island of Ilovik.
- The procedure plans to upgrade the port with a coastal structure of 125 meters and a pier length of 90, including 2 ferry ramps.
- Ministry: **no need for EIA.**

Mrtvaška

- Reasons why environmental impact assessments are not required, according to Ministry. They only state
  - during construction, there may be pollution of the air,
  - during construction, there will be increased traffic,
  - during construction the impact of noise is negligible because everything is outside the populated area and
  - after finishing the project will increase in road traffic
- In a project of upgrading the port of Mrtvašaka, the ship line has been relocated. This liner Ilovik – Mrtvaška only one nautical mile, 10 minutes time and with the reallocation the ship route travel is 80 minutes.
- Local population states that this way the island of Ilovik cannot live, and adds that the problem is how the project was conceived.
- It is foreseen to build pier more than two meters high from mid-level sea waters, which **prevents access to local line ship and local boats**. For us, the boat is a car, we don't have cars on Ilovik is the statement of a local community.
- After numerous protests by local residents, **construction of unfinished buildings was halted**.

EIA implementation challenges

- Environmental impact in coastal area is of utmost importance and the reason for developing the system that ensures permanent research and monitoring in order to preserve the environment and ecosystems.
- 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.
- Besides ecological there are also social impacts affecting people and communities in which they live as a result 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.

Neminem laedere / precautionary principle

- 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.

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.
- 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.

Social impact assessment

- The inclusion of assessment of social impacts may significantly contribute to sustainable development advocated by European Union as well as the Republic of Croatia.
- Such an approach comprehensively conduces to preventing the devastation of environment and biological diversity as well as to sustainable resource use, while strengthening economic, social and territorial cohesion.
- Social impacts affecting people and communities in which they live as a result of a project involve changes to community values and/or the way the community functions, impacts on communities', quality of life (air quality, noise levels etc.), impacts on their culture and history, impacts on exposure to hazards and risks, impacts on the access to control over resources, the access and quality of infrastructure, services and facilities, as well as economic well-being.

Conclusion

- The projects must correspond to the demands, complying with governance response measures.
- Coastal areas are subject to interventions particularly by property developers in transport and tourism sector and 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.
- 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.

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.
- 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.
- Avoidance of EIA procedures following the screening procedure is presently dominating.
- No consideration is given to explicit provisions of social impact and local population.

Conclusion

- In order to introduce into environmental impact procedures the assessment of social impacts as well, certain parts of the EIA and screening reports should be complemented with data on the composition and number of inhabitants in the area of project development, how planned project will impact their daily living habits and needs, and the use of public spaces.
- Proposed model for evaluating acceptable alternatives and their effects on the environment and society is social cost-benefit analysis.
- Another useful proposed environmental protection measure is producing of the environmental and sociological management plan.

Reflection to the future

- Draft Law on maritime demesne and seaports:
  - broad concession granting of maritime demesne for the benefit of investors – privatization of coastal area including beaches
  - proliferation of nautical ports
  - offshore wind farms
  - fish farms
  - solar plant at sea
  - proclaiming investment ideas a strategic project to avoid the EIA