Deliverable 5.2.1 – 5.2.2

Transferability plan at pilot area and regional scale (country and transboundary level) - Emilia Romagna Region-

Pilot area: Cattolica and Comacchio

Background

CO-EVOLVE is an Interreg MED modular project co-financed by the European Regional Development Fund, which lasted from January 2017 up to October 2019. It aimed at analyzing and promoting the co-evolution of human activities and natural systems in touristic coastal areas, allowing sustainable development of touristic activities based on the principles of Integrated Coastal Zone Management (ICZM) and Maritime Spatial Planning (MSP).

As all Interreg MED modular projects, Co-Evolve was divided in three phases: the studying phase, the testing phase and the transferability phase. During the first phase of the project - the studying phase -, an unavailable analysis at MED scale of threats and enabling factors for sustainable tourism with local studies on representative pilot areas has been performed in order to demonstrate through pilot actions the feasibility and effectiveness of a ICZM/MSP based planning process. The coherent and cross-fertilized analysis performed constituted the basis of indications for the testing phase, which translated in practice those findings in order to implement pilot actions (plans, concrete actions and measures) in selected coastal zones, setting the conditions for a sustainable tourism in coastal areas. Finally, the transferring phase, in the framework of which this document has been produced, targets two levels: the pilot/regional scale and the Mediterranean scale. At the local/regional level, the objective is to transfer the results of the analysis and demonstration actions beyond the immediate territorial and administrative limits of the pilot area. At the Mediterranean level, the objective is to transfer Co-Evolve major findings, conclusions and outputs to relevant authorities from each Mediterranean countries.

It should be noted that the purpose of this document is not to present in detail the results of Co-Evolve, be it research or pilot area experiences, but to give an overall overview of what has been achieved. The individual reports are available on the Co-Evolve website https://co-evolve.interreg-med.eu/ and the direct references of the reports mentioned in this document are listed in the bibliography.

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Chapter 1: Results from the studying phase

The coastal areas are very coveted spaces, which are also fragile and limited. The concentration and competition of human activities have led to degradation of coastal ecosystems. The challenge of sustainable development in these areas is to preserve outstanding natural spaces without hindering the development of human activities. Tourism is one of the major economic activities on the coastal zone of the Mediterranean region. In 2014, it accounted for 11.3 percent of Gross Domestic Product (GDP) and 11.5 percent of employment in 2014, with expected significant growth through 2025 including a 0.6 percent increase in total contribution to GDP[1]. As such, this activity has a crucial role to play in the development of the region. Though, the continuous growth of tourism in Mediterranean coastal areas exerts pressures on environmental and cultural resources of the coastal zones, and affects negatively social and cultural patterns of tourist destinations.

The approach of Integrated Coastal Zone Management (ICZM) is perceived by European Union (EU) and numerous international organizations as the most appropriate approach for the development and the management of coastal zones. ICZM is defined as “a dynamic process for the sustainable management and use of coastal zones, taking into account at the same time the fragility of coastal ecosystems and landscapes, the diversity of activities and uses, their interactions, the maritime orientation of certain activities and uses and their impact on both the marine and land parts”[2]. It is complemented on the sea side with maritime spatial planning (MSP) principles. MSP aims at “analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve objectives usually specified through a political process”[3]. In order to better understand which are the threats tourism poses to the coastal zones, but also which are the most relevant enabling factors for its sustainability, an analysis has been performed, and its results are summarized below.

[1] Plan Bleu, 2016. Tourism and Sustainability in the Mediterranean: Key Facts and Trends.
[2] UNEP/MAP/PAP/RAC, 2008, ICZM Protocol
[3] Ehler, C. and Douvere, F. 2009. Marine Spatial Planning: a step-by-step approach toward ecosystem-based management, Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. IOC Manual and Guides no. 53, ICAM Dossier no. 6. Paris: UNESCO.

1.1. Threats and enabling factors for tourism sustainability

1.1.1. Tourist fluxes and carrying capacity[4]

Massive tourist fluxes can alter and compromise tourism destinations causing several potential direct and indirect impacts, strictly linked to the increasing need of local resources, space and to the over-production of waste/pollution. Diversification of the tourist offer, de-seasonalization and distribution of the flows on wider areas are all key actions to reduce the pressure from tourist fluxes.

The Tourism Carrying Capacity Assessment (TCCA) is a valuable decision-making tool for maritime and coastal tourism destinations planning. A system of metrics for a logical assessment of TCCA for maritime and coastal tourism in the Mediterranean was developed in the frame of CO-EVOLVE.

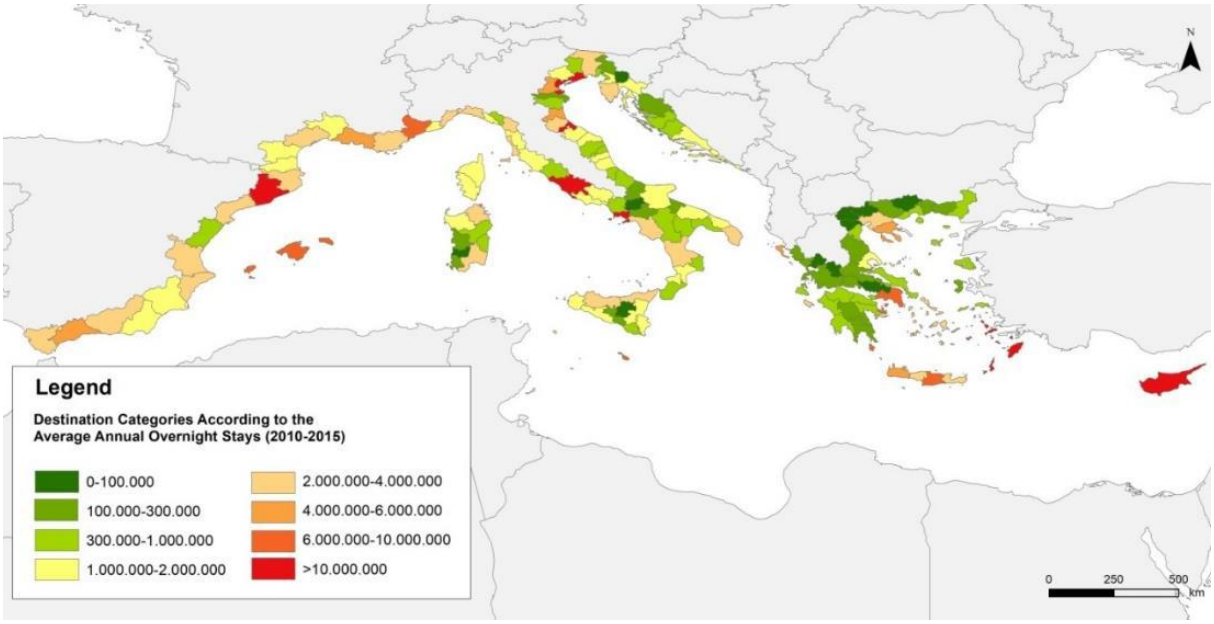


Figure 1: Destination categories according to the Average Annual Overnight Stays (2010-2015) (from Coccossis, H. and Koutsopoulou, A., 2017(b))

[4] CO-EVOLVE project: Coccossis H. and Koutsopoulou A., 2017(a); Coccossis H. and Koutsopoulou A., 2017(b)

1.1.2. Littoralization and urbanization[5]

Urbanization and especially coastal urbanization or littoralization, namely land occupation by urban land uses and related infrastructure in coastal areas, is a long-standing and intense phenomenon in the Mediterranean region.

Between 1950 and 2010, the Mediterranean urbanisation rate increased from 42.86% to 65.63%, while estimations show that, by 2050, 73.96% of the Mediterranean population will live in urban areas. The population residing in urban areas is shown in Figure 1.

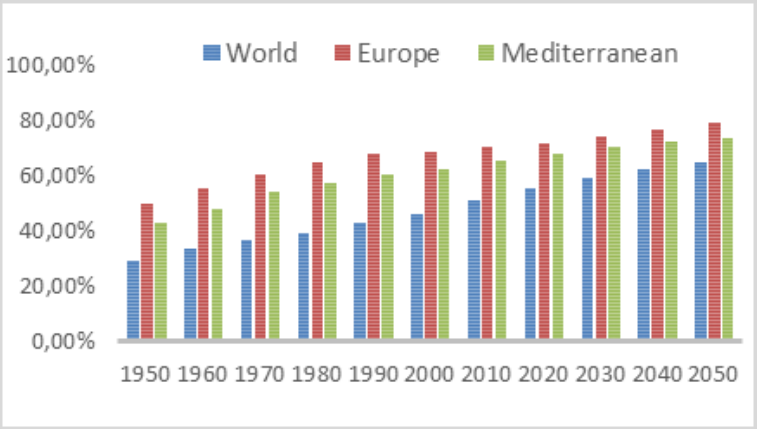


Figure 2: Increase of the population residing in urban areas (%) (Coccossis H., Stavridou K. and Koutsopoulou A., 2017, based on United Nations Environmental Programme Data Set, 2015)

The population within 100 kilometres of the Mediterranean coast has increased almost 1.5 times in the period from 1975 to 2005 (figure 1). Likewise, the population density at the European coast of the Mediterranean, from 1950 to 2013, is continuously increasing but with a lower growth rate over the years.

If the urbanization rate of European countries is expected to increase by a moderate degree by 2050, North African countries' rate will grow even more rapidly.

Coastal urbanization/littoralization can be considered both as a threat to and a main component of the tourist destinations development. Mature tourist destinations with high tourism dynamism show the highest degree of coastal urbanization/littoralization, while regions characterized by low to medium touristic pressure are still predominantly rural.

The ICZM Protocol is the main instrument at the basin scale to address littoralization/urbanization. In its article 8, it requires the contracting parties to establish a setback zone where construction is not allowed in the first 100 meters from the shore. At the national level, all Mediterranean countries have developed strategies and plans to manage land use in their coastal areas.

[5] CO-EVOLVE project: Coccossis H., Stavridou K. and Koutsopoulou A., 2017.

1.1.3. Land-sea interactions [6]

The Mediterranean has long been the focal point of interactions between different coexisting and often conflicting socio-economic activities, such as fisheries and agriculture, energy extraction and exploration, and maritime transport. However, currently the maritime and coastal tourism is the largest sea-related economic activity in the Mediterranean region. Future scenarios indicate that in 2030 the Southern and Mediterranean Europe will receive 103 arrivals per 100 inhabitants. The forecast for energy extraction and exploration is for an increased exploitation of offshore oil and gas deposits; while for maritime transport a 4% annual growth rate in global trade over the next decade can be anticipated.

Similarly, fish aquaculture production in the Mediterranean countries of the EU is expected to increase by 112% between 2010 and 2030 (Piante & Ody, 20157). Impacts from other activities on tourism include, for instance, negative interactions with marine aquaculture (conflicts over the use of space and local degradation of ecosystems), the density and negative influence of ports infrastructures, and negative interactions with off-shore oil and gas infrastructures.

1.1.4. Coastal erosion and protection measures [8]

Many important tourist destinations along the EU Mediterranean coast are exposed to erosion.

If over the past decades the broad erosion along the Mediterranean coasts has been basically related to the anthropogenic development, which altered the overall sediment budget and the natural balance of littoral sand nourishment, the future erosion trends will additionally largely depend on the climate change effects (sea-level rise and extreme events). Building coastal defense structures is a concrete way to prevent or reduce erosion at the local level. A significant presence of hard defense structures is observed in several Mediterranean areas characterized by sandy beaches and high urban development. Well-designed defense structures generally reduce the erosion rate of the protected beach, and are often combined with sand supply, dredging and nourishment in the framework of ICZM policy development. Although the technique of beach nourishment is nowadays becoming

[6] CO-EVOLVE project: Coccossis H. and Koutsopoulou A., 2017(d)

[7] CO-EVOLVE project: Piante C., Ody D., 2015. Blue Growth in the Mediterranean Sea: the Challenge of Good Environmental Status. MedTrends Project. WWF-France

[8] CO-EVOLVE project: Carniel S., Gaeta M.G. and Bonaldo D., 2017(a); Carniel S., Gaeta M.G. and Bonaldo D., 2017(b); Rizzetto F. and Vacca C., 2017(a).

much more adopted in the Mediterranean region, it is often applied as a measure of a remedial rather than preventive strategy. Therefore, an overall long-term planning, coastal management, and regular monitoring of the coastline should be included in the planning of this type of measures as part of ICZM policy.

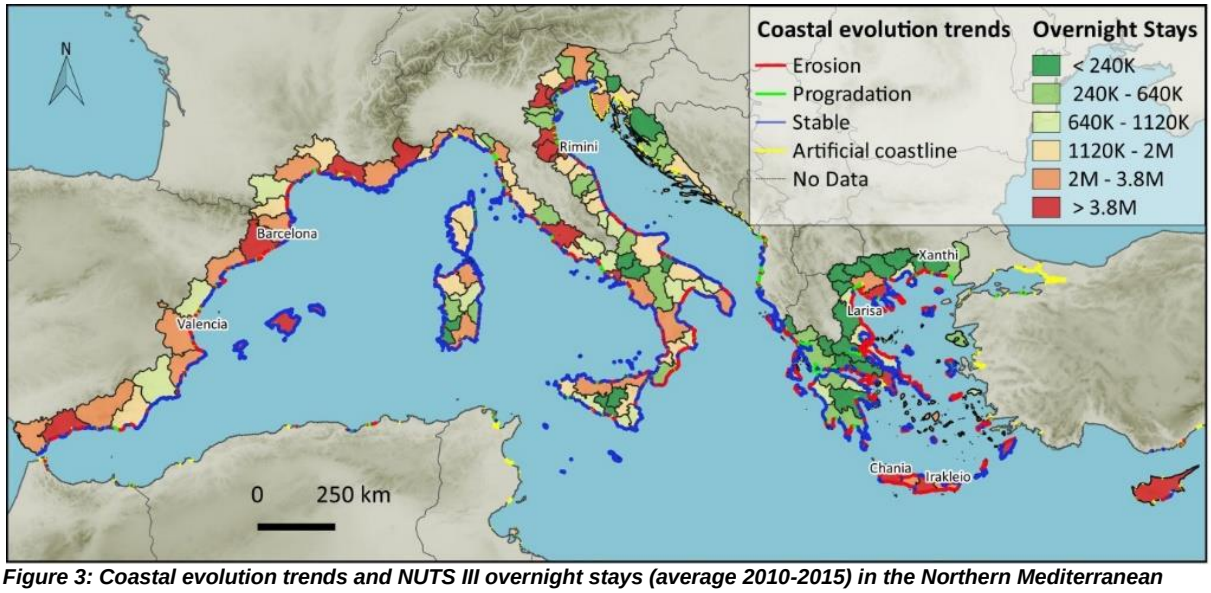


Figure 3: Coastal evolution trends and NUTS III overnight stays (average 2010-2015) in the Northern Mediterranean (from Drius et al. 2018)

1.1.5. Ecosystem threats and protection [9]

The main threats tourism poses to ecosystems are ecosystem fragmentation and degradation; wildlife disturbance and exploitation, solid waste production, water pollution, air pollution, introduction of alien species, noise pollution and light pollution.

On the other side, healthy coastal ecosystems provide multiple benefits for coastal tourism. They support recreation, wellbeing, aesthetic experience and intellectual stimulation. These so-called “cultural ecosystem services” rely on other services provided by coastal ecosystems crucial for tourism development, such as for instance micro-climate regulation and protection from coastal erosion. Considering the importance of ecosystem services for coastal tourism, current regulations, such as the MSP Directive, need to be supported and guided by an ecosystem approach, which takes into adequate consideration also the role of ecosystem services.

[9] CO-EVOLVE project: Drius M., Bongiorni L. and Pugnetti A., 2017 (a); Drius M., Bongiorni L. and Pugnetti A., 2017(b); Drius M., Campanaro A., Bongiorni L. and Pugnetti A., 2017

Conservation measures are concentrated more in the EU Northern Basin (Corso Ligurian Basin) and in the Central Basin (between Tunisia and Sicily), than in the southern Mediterranean Basin.

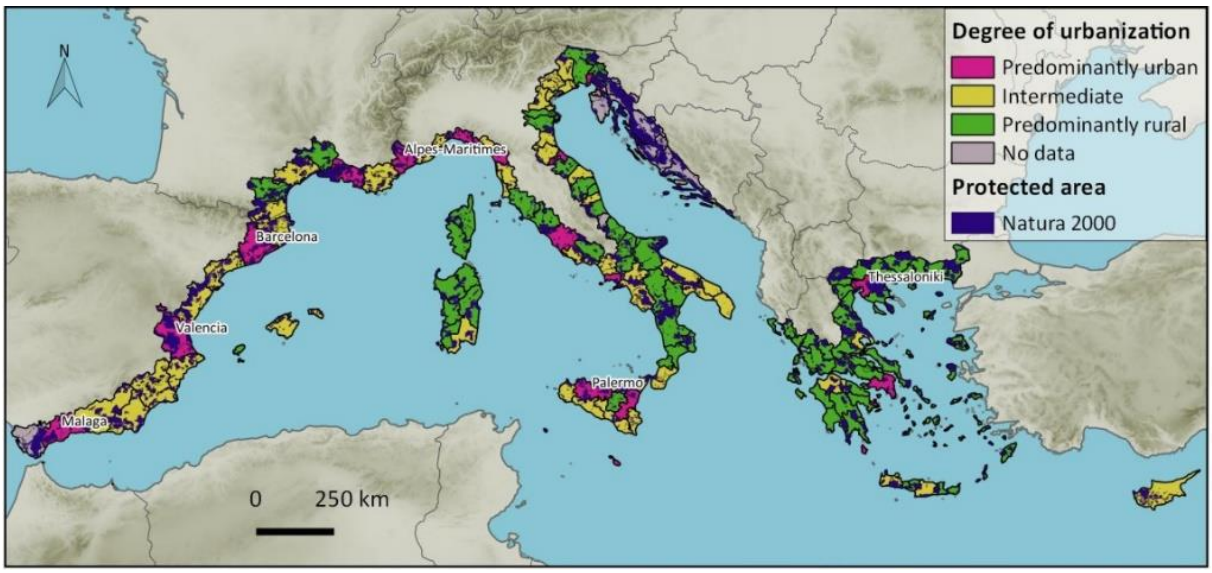


Figure 4: Degree of urbanization and distribution of Natura 2000 sites in the Northern Mediterranean (from Drius et al. 2018)

1.1.6. Water management [10]

Most of the impacts of tourism on water resources are linked to seasonality, with peak demand coinciding with the dry season (summer). Spatial concentration along the coast, at locations with scarce local water resources (islands) and often in fragile natural environments, is particularly problematic. There are numerous conflicts among uses (drinking water, agriculture, industry, ecosystems).

[10] CO-EVOLVE project: Kennou H., Miquel S., Burak S., Margat J., and Dubreuil C., 2017

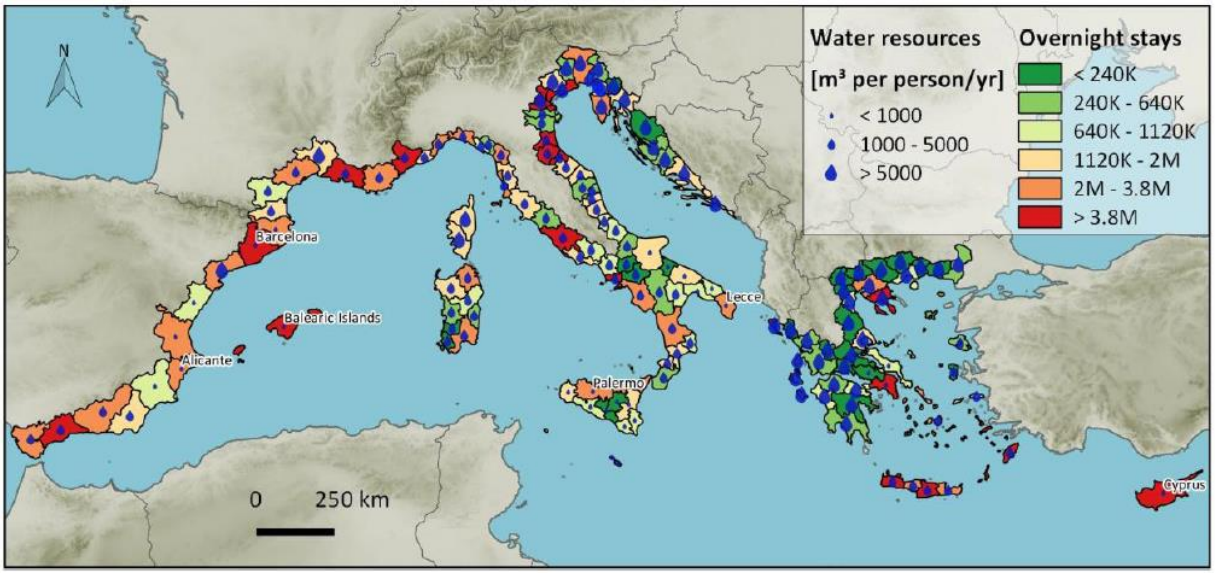


Figure 5: Availability of water resources and high tourist pressure (from Drius et al. 2018)

In the southern countries, as well as in Turkey, where water demand is still increasing and the resources are most threatened by climate change, the supply-side policy, mainly for development purposes, is still predominant. Overexploitation of groundwater is still unequally mastered. One of the main objectives of water policies is to prevent the consequences of drought and the risk of water shortage, as well as the current and future "water crisis" caused by climate change.

1.1.7. Transport and accessibility [11]

Transport can be considered as a key factor in the success of sustainable tourism development. Accessibility of a tourist destination in order to attract tourists largely depends on the availability and efficiency of transport needed to travel to that destination. On the other hand, poor accessibility to destinations can discourage visitors from attempting to reach these places altogether.

[11] CO-EVOLVE project: Sakib N., Musco F., and Gissi E., 2017. State of the art and future development of Transport and Accessibility at Mediterranean Scale.

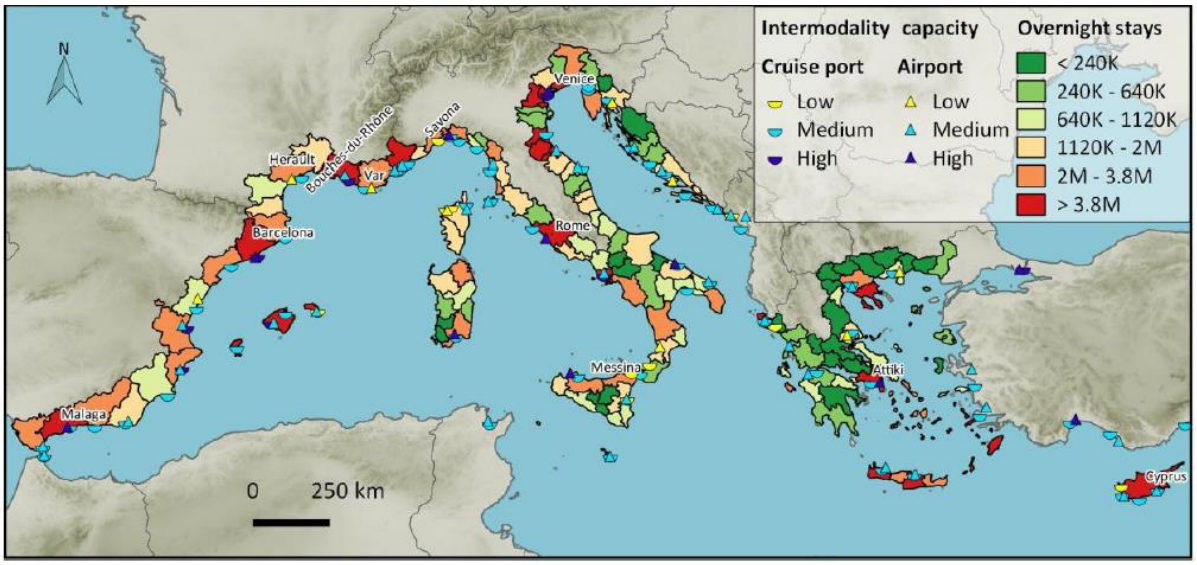


Figure 6: Intermodality capacity for cruise ports and airports is higher in Western Mediterranean than in Eastern Mediterranean, consistently with tourism fluxes (from Drius et al. 2018).

1.1.8. Interaction among threats and enabling factors [12]

All T&EF are expected to increase in the near future, although at different speed and intensity, with the exception of "pollution and other anthropogenic pressures affecting ecosystems" which should stay constant, owing to the good environmental policies and practices. In general, the intensity of the interactions between T&EF is increasing, with the three main drivers being: i) the morphological instability of coastal areas, also due to climate changes; ii) the increase of tourist fluxes; iii) the protection measures to put in place on the coasts and ecosystems in order to respond to threats and allow for sustainable tourism development. The expected increase of other uses of the coast and the sea within a general expansion of sea economy and their coexistence with tourism will be another major issue.
This analysis, although simplified, clearly shows the importance of a multidisciplinary, integrated and long-term view and effort on policy and governance.

1.1.9. Governance for a better sustainability of tourism[13]

Even though they cannot be considered as "silver bullets", the ICZM Protocol and MSP principles can be considered as major tools for the improvement of sustainability of tourism since they address all the crucial issues, which the Mediterranean basin is facing. Considering tourism through their prism can also help adopt a holistic approach which is essential in order to balance the uses of the coastal zone, as well as to reduce the conflicts

[12] CO-EVOLVE project: Drius M., V. Evers, S. Bellacicco, L. Petrić, M. Prem, A. Barbanti, 2018.
[13] CO-EVOLVE project: Evers V., Petric L. and Prem M., 2017.

among them. Five main cross-cutting obstacles to sustainable tourism can be identified when adopting this holistic perspective.

- Obstacle 1: Countries' excessive orientation and over-dependence on tourism as an economic activity;
- Obstacle 2: Misbalance between destinations' carrying capacities and demand volume;
- Obstacle 3: Seasonal concentration of demand;
- Obstacle 4: Over-use and pollution of (natural and cultural) resources by tourism industry;
- Obstacle 5: Illegal activities by tourism industry.

The ICZM Protocol, as a legally binding instrument, complemented by the MSP principles on the marine part of the coastal zone, provides a legal basis for getting over these obstacles, and may act as a key enabling factor for co-evolution of the tourist areas of the Mediterranean region. Its implementation through the national laws, as well as through local practices, should enable the coastal destinations to keep or turn their coastal zones into healthy, attractive, economically balanced and diverse ones, which is the basis for developing sustainable tourism. Besides, it enables dealing with the emerging coastal environmental challenges, such as the climate change.

1.2. Co-evolve's planning methodology[14]

The guidelines produced in the framework of the project offer a step-by-step methodology to construct a tourism-driven strategic plan for sustainable development of coastal areas. They integrate the main principles and goals of ICZM and of sustainable tourism. The proposed planning methodology is organized in different consequential steps that constitutes an adaptive and cyclical process. It consists of 6 major phases, each of which includes key tasks and steps. The iterative process of tourism-driven strategic planning in coastal areas is reported in the figure bellow.

[14] CO-EVOLVE project: Filippo Magni, Federica Appiotti, Denis Maragno, Alberto Innocenti, Vittore Negretto, Francesco Musco, 2017.

Figure 7- Conceptual framework of the methodology to the tourism-driven strategic plans construction (from Magni et al, 2017)

A short summary of each phase of the process is presented bellow.

STEP 0 - PLANNING SET-UP: The main aim of this step, that can be considered the most important pre-planning phase, is to create the needed bases for the subsequent implementation of the whole planning process. In this phase, one will answer to the **questions** why (why do we need this strategy for), who (identification of the stakeholders and of the team which will develop the plan), when (timing definition, identification of the milestones), where (territorial boundaries)**,** and how (which are going to be the costs).

STEP 1 - BUILDING KNOWLEDGE FRAMEWORK: The overall aim is to analyze the area, in a coherent and integrate way, in order to build up the knowledge to support the decision-making process provided in steps 2 and 3, in which the vision and objectives are defined and the strategy is constructed. This step is organized in 3 main tasks. The first task aims to collect information about the existing area status in relation to sustainable tourism development. The information that should be collected and subsequently analyzed are: (i) threats and enabling factors that affect the co-evolution of area's tourism development, (ii) area's sustainability status; (iii) existing policies and plans. The second task aims at

analyzing data collected in order to obtain a knowledge framework useful to construct planning priorities and subsequent goals and objectives. The analysis must be strongly focused on the planning main goal. Finally, the third task's purpose is to organize the results obtained from the previous phases to facilitate the subsequent steps execution. At the end of this phase, a final summary of existing conditions of the area should be produced focusing on the agreed points

STEP 2 - DEFINING GOALS VISION AND OBJECTIVES: The starting point to create an effective strategy for sustainable tourism development in coastal areas is to set the main direction to which we want to move: the vision and its related objectives. The construction of the vision for the area and the identification of strategic specific objectives must be constructed, on one hand, addressing the strategic issues emerged from the analytical phase, and, on the other hand ensuring the coherence and compliance with ICZM and Sustainable tourism principles and main goals. Therefore, the step should be subdivided in 3 main tasks: the first one will consist in designing a common and integrated vision for the area; the second one will be to identify the main planning goals and objectives; and the last will be to link objectives with ICZM and sustainable tourism goals.

STEP 3 - TOURISM DRIVEN STRATEGIC PLANNING CONSTRUCTION: The aim of this step is to develop the longer-term elements for a sustainable tourism-driven development of the area starting from the vision and objectives identified. The tourism-driven strategy identifies a feasible "trajectory" of change based on the approved objectives and consisting of concrete actions reported in a comprehensive action plan for its implementation. Therefore, the tourism-driven strategic plan is an integrated set of desired and integrated outcomes in which the actions for the realization of them are explained through an action plan. The action plan will consist in a series of management actions aimed at achieving one or more identified objectives.

STEP 4 - IMPLEMENTING THE PLAN: The purpose of this phase is to apply the strategic approach to priority issues, i.e., on a smaller, more practical scale. Design and implement of strategic action plans depends upon the strategic priorities identified within the second step. As it identifies the key undertakings in consultation with stakeholders while focusing on resources and partnerships, the implementation of strategic actions plans remains fully congruent with the Co-evolve project approach.

STEP 5 - REVIEWING THE PLAN: The revision step is one of the most critical planning steps, and is an activity designed to provide constant feedbacks on the progress of the planning process and on the status and efficiency of its implementation. The revision step

includes a phase of monitoring and a phase of evaluation. The aspect of tourism sustainability can be monitored using the "Sustainability toolkit" presented bellow, and the indicators selected for the specific area in the building framework step (step1). The use of indicators will show the trends of change after the actions' implementation.

The importance of stakeholder involvement

It is important to stress the development of the plan should be done in a participatory way. The participatory process shall start from the very beginning of the process (STEP 0), starting from concept development through implementation, to monitoring and evaluation of results. Early stakeholder engagement in decision-making has been frequently cited as essential if participatory processes are to lead to high quality and long-lasting decisions.
In order to be efficient, stakeholders involved should include not only the actors likely to have an impact on the project, but also the people who will be affected by the project. Categories of stakeholders usually considered as relevant in tourism context include government, residents, local business, visitors, tourism employees, academics, and civil society. The participation process is complex and can be problematic, as there has to be collaboration among stakeholders holding different opinions on the same subject. For example, investors and hotel managers often don't share the point of view of NGOs.

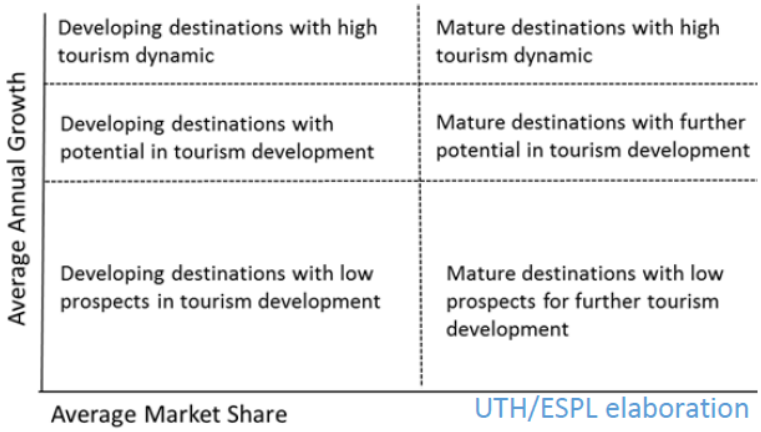
1.3. Co-evolve's tourism typology and indicators[15]

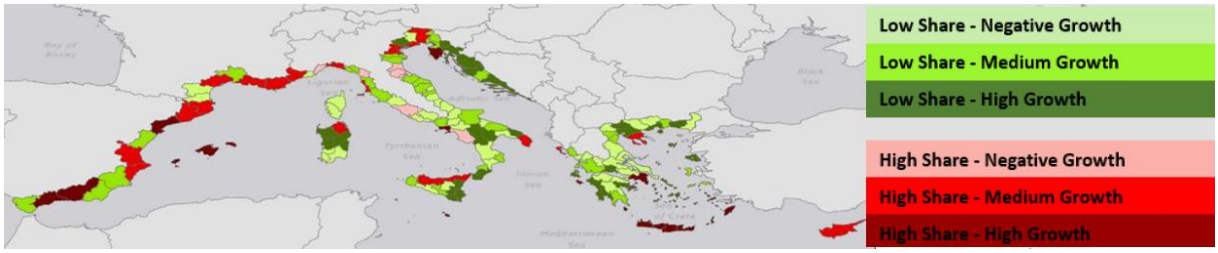
Tourism typology

The use of a common typology in tourism development substantially contributes to the identification of goals and objectives, the highlighting of trends, problems, conflicts and opportunities for development, the improvement of the decision-making process and the production of alternative scenarios for each type of destination. In CO-EVOLVE, the typology developed is based on two variables that form the basis for the classification. The first refers to the average share of overnight stays at each destination against the total overnight stays in the Mediterranean destinations and the second refers to the average annual growth of overnight stays at each destination.

[15] CO-EVOLVE project: Coccossis H. and Koutsopoulou A., 2017(e); Coccossis H. and Koutsopoulou A., 2017(f).

The use of the two variables led to 6 main destination types that provide useful insights about the state and potential of the tourism sector in the Mediterranean regions (figures 8 and 9).





Figures 8 and 9 - State and potential of the tourism sector in the Mediterranean regions (Coccossis H. and Koutsopoulou A., 2017(e))

Building upon the typology, the conceptual model of indicators developed in CO-EVOLVE represents an extended and flexible tourism sustainability toolkit that can be customized according to the specific needs and characteristics of the highly diversified Mediterranean coastal destinations.

The toolkit (figure 11) constitutes a three-tier system composed by the following sets of indicators:

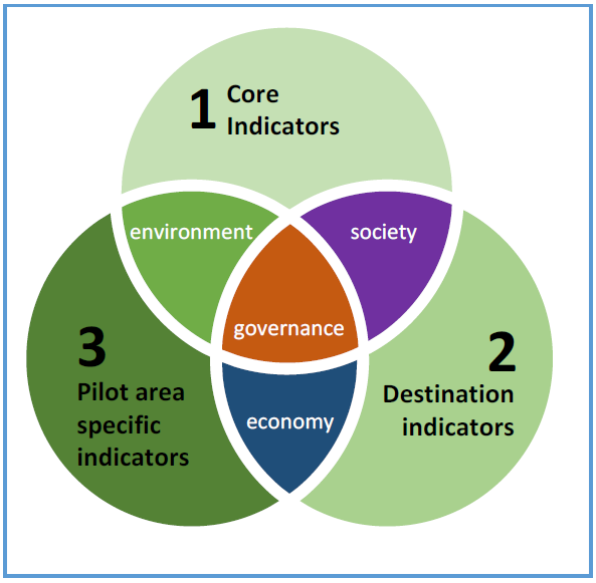


Figure 11: CO-EVOLVE toolkit (Coccossis H. and Koutsopoulou A., 2017(e))

Core indicators: 40 indicators have been selected from the European Tourism Indicator System (ETIS) to serve as the basis for comparison of the level and trends of sustainable development for all types of destinations

Destination indicators: an extensive set of indicators developed to address the specific issues of coastal areas according to the characteristics and particularities of the predominant type of tourism activity in each type of destination (Beach/Maritime tourism, Urban/Cultural tourism, Cruising, Recreational boating, Nature/Ecotourism).

Pilot area-specific indicators: a set of indicators developed on the basis of area-specific critical issues with linkages to the main threats, enabling factors and governance issues identified in Mediterranean coastal areas.

The starting point for adapting the Toolkit to each destination is a list of priority indicators selected from the Toolkit which refer to the most common critical issues and specificities encountered in Mediterranean coastal tourism destinations. The list is meant to act as a baseline for comparisons among coastal tourism destinations in the Mediterranean.

The use of the Toolkit provides hints for improving existing - or shifting towards alterative - tourism models, it highlights existing data gaps & provides guidelines towards relative measurements. It can also be used as a starting basis to measure and quantify stakeholders' perceptions, define thresholds through public consultation processes, develop probability scenarios to adjust future planning actions and policies and to monitor changes in sustainability in the future.

Chapter 2 – Results of pilot experiences

2.1. Presentation of the baseline situation

The Cattolica pilot area is a tipical urbanised coastal area with multipurpose harbor (fishery, shipyard, crafts production, pleasure boats Marina) and seaside resort structured with bath-house facilities.

The harbor of Cattolica coincides, it is in the main canal, with the Tavollo river terminal stretch that flows inside the inhabited areas of Cattolica and Gabicce Mare;

The harbor is classified as being of regional importance in accordance with the integrated regional transport plan pursuant to art. 3 of the Regional Law of 1 December 1979 n. 45;

The harbor for years has been subject to landfill due to Tavollo creek transport, and of the harbor mouth, from the sea solid transport, which, in addition to endangering the activities related to fishing and local shipping, has led to a decrease of tourists attractiveness of the harbor and of the seaside area, difficulties and crisis in human activities reflecting on local economy and employment.

Figure 1 Pilot Area 2 A

In the harbor take places work activities of about 700 people:

- 200 fishermen with their 100 fishing boats;
- 150 workers and technicians of shipyards including excellence represented by Ferretti Craft with the production of at least 30 boats a year over 25 meters;

- 10 between moorings and employees for direct services to the pleasure craft with its 300 berths;
- 300 employees in the commercial activities located on the port and closely connected to it, e.g. more than 20 catering establishments etc.

The priorities to foreseen is to create conditions for the sustainable management of Cattolica harbor and its sediment management. Re-launching of tourism in the area along with sustainability principles implementation, favoring human activities sustainability, and employment in tourism sector, and in primary and secondary sectors.

The local strategy will be built on the basis of the following law and guidelines:

- Directive 2000/60 / EC (Water Framework Directive)
- Directive 2007/60 / EC (Flood Risk Directive),
- the regional law 18 July 2017 n. 16 of the Emilia-Romagna Region which, in art. 35, promotes the use of river contracts;
- ICZM guidelines, Del.Regional Gov. 645/2005
- Municipality planning instrument

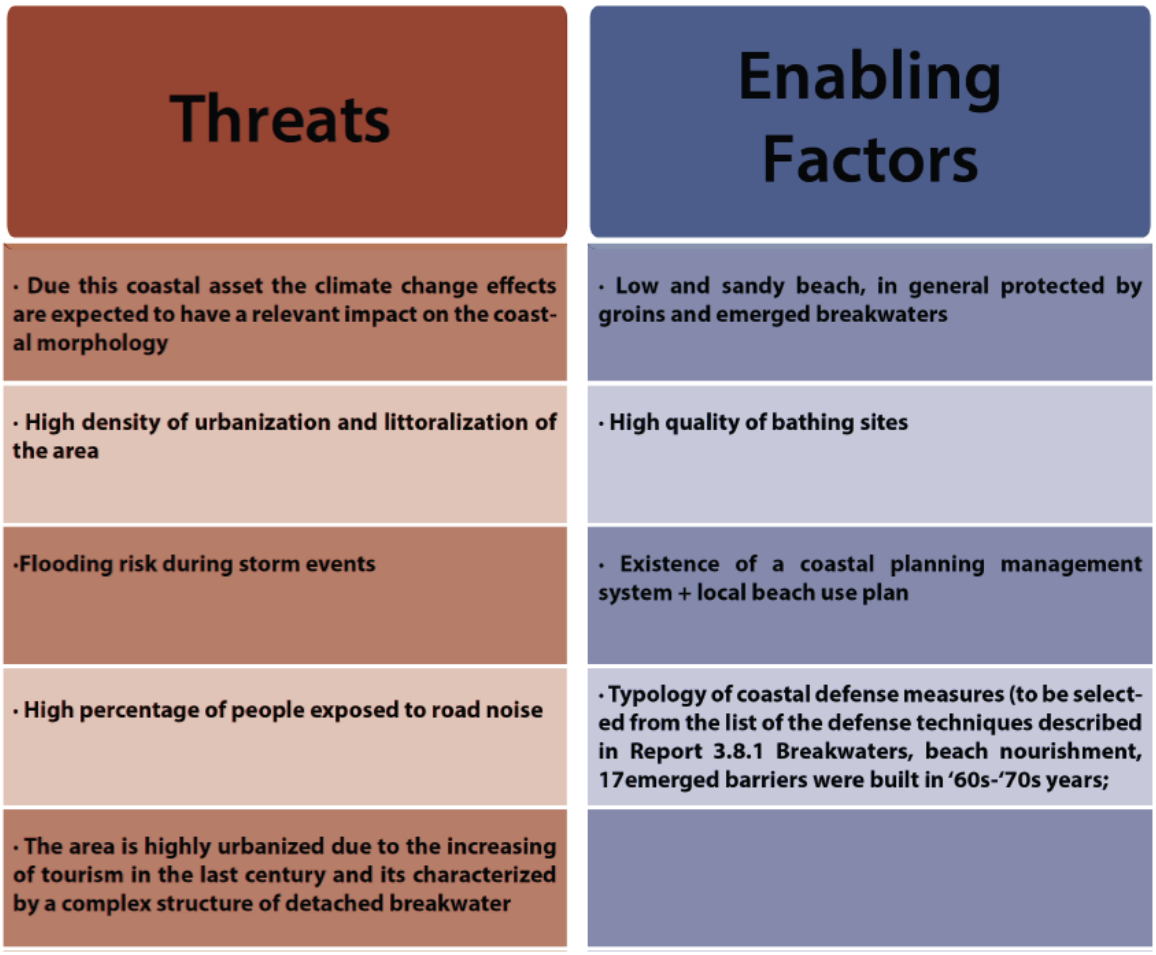


Fig 2- synthesis of threats and enabling factors

2.2. Methodology used at pilot area

For the development of local action plan we've follow the CO-EVOLVE methodology as in the following step:

- **STEP 0 - PLANNING SET-UP:** during the planning set up step we've identified the regional working group that would follow the process, composed by personnel coming from different regional services (tourism, coast protection, communication) and, by a public tender, was identified the external expert that would implementation the whole planning process with the stakeholder engagement. Always in this phase we've defined the timing of the process, linked to the WP4 timeline, and the estimated cost.
- **STEP 1 - BUILDING KNOWLEDGE FRAMEWORK:** to support the decision-making process provided in steps 2 and 3, we collect and analyze all the threats and enabling factors that affect the co-evolution of area's tourism development during the WP3

analysis phase. All the data collected were useful for the definition of the next steps of the action plan process and in particular for the proposal of the small scale investment, de-silting plant, to stakeholders.

- **STEP 2 - DEFINING GOALS VISION AND OBJECTIVES:**. The construction of the vision was made during the stakeholder engagement. Each stakeholder, private or institutional, bring is own vision of the area identifying the key aspects of the actions to be implemented for the sustainable tourism development of the area.
- **STEP 3 - TOURISM DRIVEN STRATEGIC PLANNING CONSTRUCTION:** The action plan of Cattolica harbor was setup at the end of the participatory process. It consists in actions connected to the vision and goals defined during the stakeholder engagement.
- **STEP 4 - IMPLEMENTING THE PLAN:** Some of the strategic action individuated by the plan have been implemented, like the desilting plant, others will be implemented in the future.

2.3. Stakeholders involvement

The identification of stakeholders for the pilot areas has been based on previous need assessment of RER technical staff that led to the inclusion of the areas within the Co-Evolve project and to the choice of possible remedial small-scale investments (SSI). The SSI's have become the trigger and expedient for the participatory process and the application of the Innovation Camp methodology.

The method of the Co-EVOLVE participatory process

The method proposed for the participatory process of CO-EVOLVE adopts and further strengthens the multi-level participatory methods used with great effectiveness also in other processes involving core stakeholders carried out by Emilia-Romagna Region.

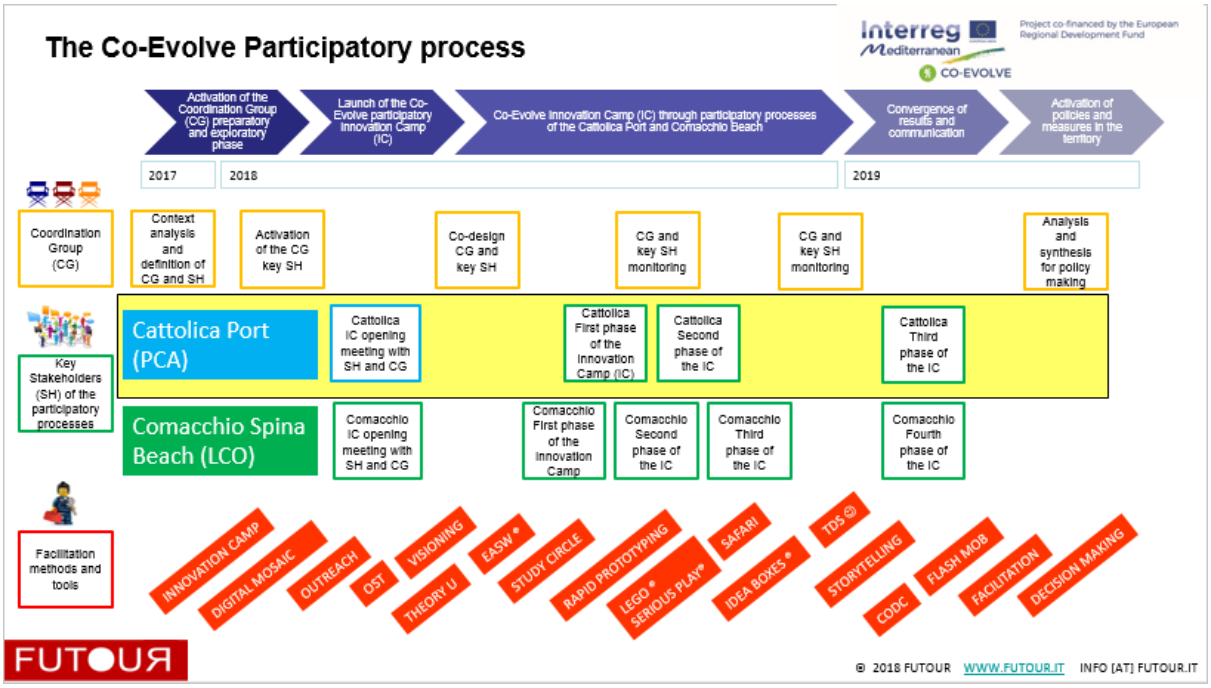


Figure 3 – the Emilia-Romagna participatory process

The effectiveness of participatory processes depends on the engagement and commitment of the stakeholders and on the ability to connect the processes to concrete social, econ omic and environmental challenges that provide a capacity to analyse the context, propose ideas, solutions and make decisions. These should be sustainable from an economic, social and environmental point of view, and scalable, that is, also replicable by the CO-EVOLVE project in other contexts providing a positive influence and recommendations for the implementation of ERDF and European plans and programs.

The main phases of the CO-EVOLVE participatory process

The diagram below describes the integrated participatory process of CO-EVOLVE:

- The main phases of the CO-EVOLVE participatory process
- Key actors in the participatory process and roles
- The methods adopted in internal participatory meetings and on the territory
- The internal participatory methods and on the territory of the CO-EVOLVE project

As can be seen in the diagram below the CO-EVOLVE process adopted and strengthened an integrated multilevel approach including the RER, local institutions and local stakeholders. To do this, a Coordination Group (CG) was set up to manage the overall process, a Control Room and the participatory process in the pilot area of the Port of Cattolica. The entire path is accompanied by the FUTOUR facilitation team by using facilitation techniques and

methodologies for each phase of the participated process. The following table describes how these constituent elements are divided into the five phases of the path:

1. Activation, Coordination Group, Control Room, preliminary and cognitive phase
2. Launch of the participated Innovation Camp (IC) CO-EVOLVE
3. Innovation Camp (IC) CO-EVOLVE through the participatory process of the Pilot areas
4. Convergence of results and communication of the Innovation Camp
5. Activation of policies and measures on the territory in the Pilot Areas

2.4. Tools applied

The Cattolica Pilot area-specific indicators set was used during the preparation of the stakeholder involvement process as basis for the discussion of the state of the tourism sustainability in the pilot area. In particular, the destination indicators set helps the Innovation camp process during the discussion for the improvement of the existing tourism models related to the multiple uses of the harbor. Relevance has indicators of energy consumption that will be used for comparing the ejector system with the classical dredging operation during the monitoring phase.

An important tool used to support the activation and the facilitation of the participatory process in the stakeholder involvement process is the Innovation Camp tool.

Dedicated methodologies are highly recommended to mobilize the collaboration of quadruple helix actors (i.e. government, academia, business and civil society) in virtuous cycles.

The IC structure is the basis for the activation and structuring of the participatory path for the Pilot Areas of Cattolica. By starting from shared challenges and objectives, new prototypes of actions, strategies and policies can be activated.

The extended IC of CO-EVOLVE is structured over a period of several months and includes three main phases:

Phase 1: before the IC, preparatory meetings for identification of the thematic challenges to be analysed during the IC, selection of the "owners" of the challenges and better definition of the challenges with them, choice of the participants (the stakeholders and the experts who they can help meet the challenges and solve them). This preparatory phase consists of preliminary meetings to share and align the control room and the participatory process for the Pilot Area of Cattolica and the participatory process for the pilot area of Comacchio. This setting phase in the project was carried out between December 2017 and March 2018.

Phase 2: carry out the field of innovation also with a Canvas Model facing, for each challenge, with the support of facilitators, the following activities:

- Explore challenges and critical issues
- Explore opportunities (deepen understanding)
- Generate and enrich ideas
- Prototyping of promising ideas
- Think forward (reflect, renew, plan, present)

This second phase is instead represented by the participatory meetings of Cattolica, in which the challenges and opportunities generated, and prototyped ideas have been reformulated and explored and the action plan to be presented to the enlarged community is structured and implemented through the CO-EVOLVE project. This second phase in the Comacchio area will take place after the summer of 2018.

Phase 3: After the Innovation Camp, the implementation phase continues in the place, organization and network where the problems and challenges have been identified. In the following months, the prototypes of promising ideas are tested and improved and can be developed by the respective organizations with all the contributions of the participants in the field. This phase of implementation, and of action research, serves both to activate and implement the projects emerging from the participatory path and to monitor the progress and structure the experiences in the Action Plan envisaged by the CO-EVOLVE project for the Pilot Area of Cattolica.

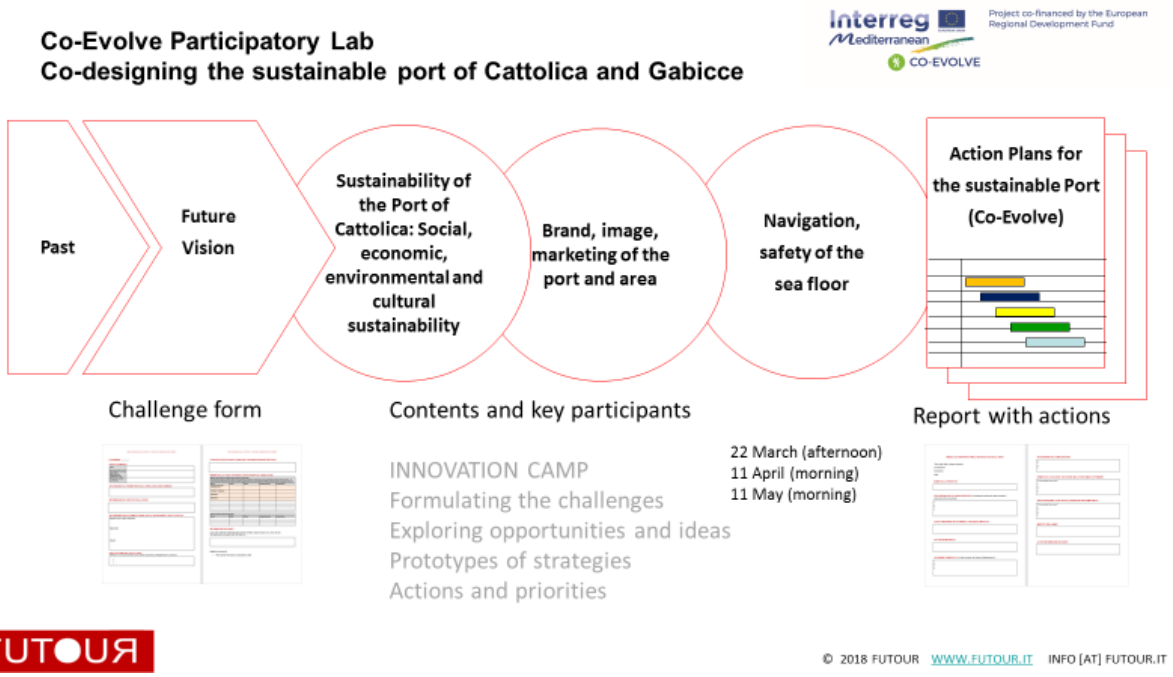


Figure 4 – Co-Evolve Participatory lab

2.5. Proposals of solutions

A plan of actions was therefore made related to tourism and economic activities - to improve water consumption, pollution and waste production - and to evaluate sustainable solutions for the management of the seabed, in order to reduce the need for dredging, starting a path of collaboration between the various public and private entities operating in the port area.
Below the main actions individuated by the plan

Action n°1: Indications for a Protocol of Understanding aimed at managing the seabed of the harbour complex

The Protocol of Understanding is a coordination tool with the presence of public and private actors for the planning of the operation and management of the port system of the Interregional port of Cattolica - Gabicce, particularly oriented to maintaining the fullness of the seabed.

Figure 5 - division into zones for depth of the seabed necessary for the operation of the Port: from -4.5 m (purple) to -1 m (red) a.s.l.

To maintain the depths necessary for the current fleet with a maximum draft of 3.00 meters, it is necessary to intervene structurally both with the completion of the works already planned and carried out only in part, and with new works; moreover, it is necessary to establish new management planning methods, which are more effective and able to respond promptly to the needs of the various port activities.

- Experimental dredging activities and maintenance of the seabed at strategic points
- Traditional dredging activities and overall port management
- Moreover, the start of studies and projects such as: works or measures to limit the causes of upstream interruption, the construction of a small brush at sea to be positioned to the west of the entrance to the port, etc.

Indications on the organs of the agreement and their functioning

1) Committee for Monitoring the seabed: Mooring, Fishermen, Shipyards, the permanent harbor office of the Catholic Port. It meets when necessary, however not less than once a month, to measure, assert and certify the reliefs of the seabed.

2) Harbor Management Committee: Municipality of Cattolica, Mooring (inside also the manager of the Gabicce Mare dock), Fishermen, Shipyards, Commercial / hotel establishments overlooking the port, Category Associations of Cattolica and Gabicce Sea.

Action n° 2: Feasibility project for the realization of an overall system for remodelling and managing the seabed with the use of ejectors

The ejector collects the sediment that is naturally brought into its area of influence, and therefore does not introduce or remove anything. Once the plant reaches steady state conditions, the marine ecosystem is no longer modified.

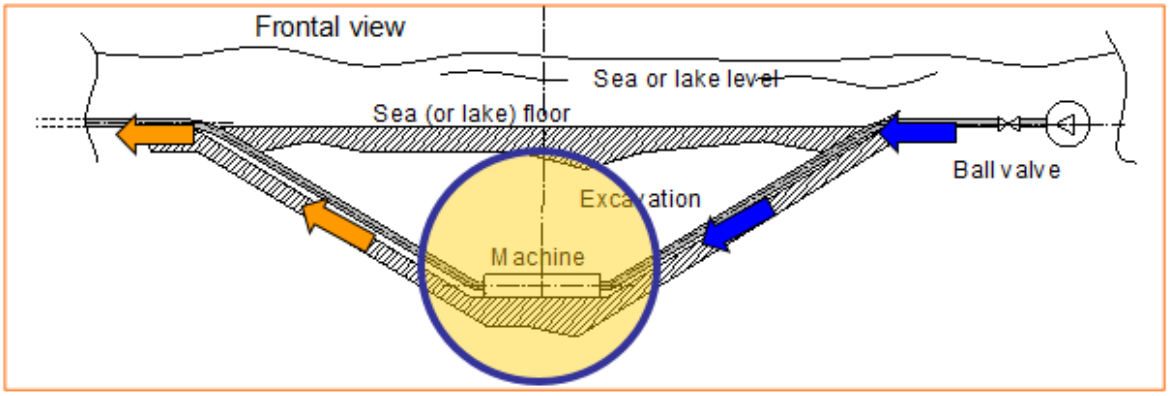


Figure 6 – the Ejectors system

The project has financed the installation of a demonstration plant installed at the GAM dockyard in Cattolica (Rimini). Unlike experimental installations made in the past, the plant is not operating near the mouth of the Port, but within the “Porto Canale” (torrent Tavollo). The sediment that the plant moves is mainly composed of silt and clay, in a mix with prevalent water content.

The preliminary results show that the ejectors have maintained the post-dredging backdrop. More in detail, the ejector inside the haulage basin was continuously moved by the GAM personnel, obtaining excellent results in terms of maintaining the seabed inside the hauling basin.

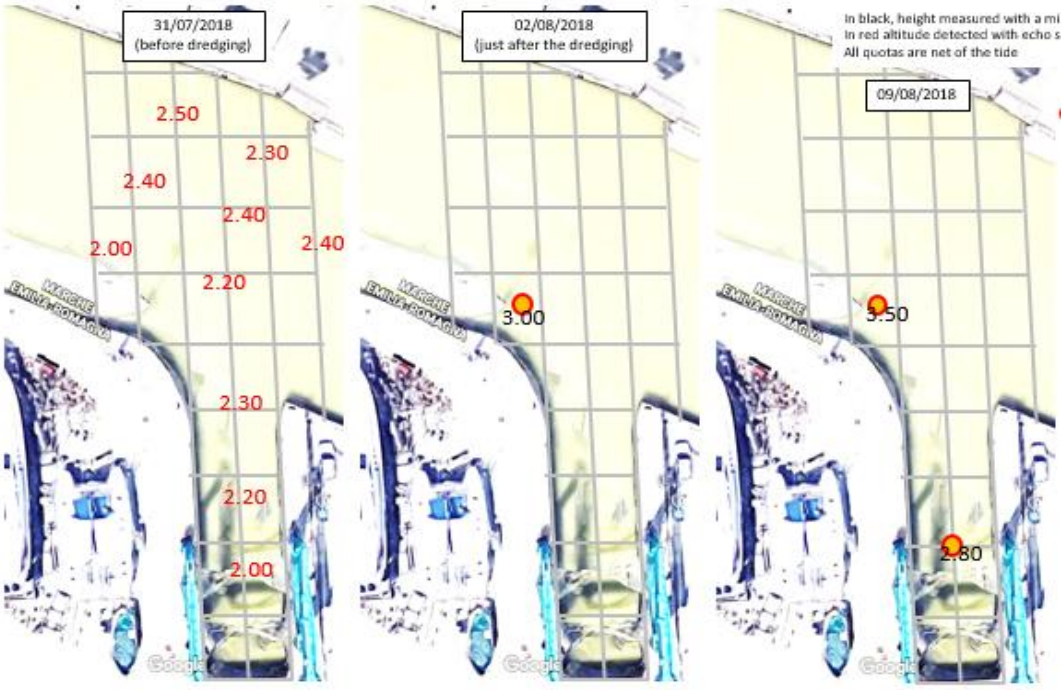


Figure 7 – monitoring of the system

Action n° 3: Indications for separate waste collection in the port area

Cattolica is the first tourist municipality that introduces the "integral door to door" and the TCP already in 2019. The purpose is to achieve the legal objectives on the R.D. (70% in 2020), through a more intensive separate collection. It is important to do the R.D. of all the fractions, because the waste measured in "liters" is the dry residue, or what cannot be

differentiated. Moreover, is important that the operators understand how to manage the containers assigned to them for the undifferentiated and that they have to keep in the properties, not outside, also for reasons of urban decor.
After an experimental phase of 6 months in 2018, from this year there are also "ecological islands" at the service of commercial activities. The containers for waste collect are eliminated in different parts of the city and in the port area. Several streets of Cattolica are interested in this experimentation, the Municipality of Cattolica is thinking of removing all the containers and leave only those for paper, plastic, glass and organic. The proposal, assessed with Hera, ask to all the activities present there to organize the minimum spaces to keep some containers (undifferentiated, organic, glass) and to collect the bulkier fractions (paper and plastic) in bags, directly at the utilities, as is already being done in other commercial realities (streets Bovio, Curiel, Mancini, etc.).

Chapter 3 – Replicable tools and methods

3.1. Positive experiences with a replication potential

The CO-EVOLVE participatory process in Cattolica pilot area shows how it's important to invest money, time and expertise for the stakeholder involvement, creating a consistent panel of stakeholder really interested in the project. This experience can be replicable at local level (as proposed in chapter 4.1) and in transboundary level (see chapter 4.2 dedicated to CO-EVOLVE for BG).
On other hand, the Cattolica small scale investment (ejector plant) for the desilting of the port seabed has an intrinsic concept of replicability. The system is easy to install and to manage and can be suitable for harbor with similar boundary conditions (sandy coast with long shore transport, harbor channel coincident with river channel). The Marina Plan project (4.1) and ECOMED port 4.2 show how the technology can be implemented and tested.

3.2. Negative experiences to be avoided

The participative process faces some negative experiences in the engagement of neighboring region and of the local population. It's not easy to avoid this kind of problem that born from a combination of factors (disaffection of population from political life, lacks of local communication, etc.).

Chapter 4 – Actual replication/transfer

4.1. Replication at the local level

Participatory process

The results achieved during the stakeholder involvement process help the CO-EVOLVE team to realize an action plan shared with the local Public authority and with the population. The replication of this method is possible using experts of the participatory process and tools. The budget of the process is depending on several factors:

- How long is the participatory process
- N° of participatory meetings
- Tools applied for the stakeholder involvement
- Necessity to rent the venue for the meetings
- Availability of a virtual square for the participation between participatory meetings
- Cost for the dissemination material

All these factors can increase, or decrease, significantly the cost of the process and the result that can be achieved from it.

The Ejector plant

The research project funded by the European Commission entitled “MARINA PLAN: reliable and innovative technology for the realization of a sustainable marine and coastal seabed management plan” deals with industrial-scale testing of an innovative and sustainable technology for seabed management at the entrances of small ports. The desilting plant is similar to the one installed in Cattolica based on ejector system, but instead of the CO-EVOLVE one installed in the harbor channel; this is installed in the harbor mouth. The results obtained by the monitoring of Cattolica ejector system functionality helps the team of Marina Plan to adapt and adjust the Cervia plant parameters (pump pressures, timing etc.) during the testing phase just finished.

4.2. Replication at the regional level in a transboundary context

ECOMEDPORT - BlueMed Start-Up Actions

The ECOMEDPORT project is financed by the BlueMed initiatives and aims at the transferring of a technology and best practice that is currently under demonstration in Cattolica pilot area and in Cervia (financed by MarinaPlan Plus Life project).

ECOMEDPORT project aims to promote the adoption of a novel and sustainable technology for the sediment management in port areas in the Mediterranean area starting form specific sites. The objectives of the project are to:

- identify one or more sites in Tunisia and in Lebanon wherein the system can be applied,
- analyze the technological and non-technological barriers in the implementation of system installation,
- recover data relevant for the design of the system (i.e. dredging operation over the years, volume of dredged sediment, bathymetries),
- design a preliminary solution with an economic and environmental impact assessment,
- a recognition to estimate the potentiality of development and application of the technology in the Mediterranean area.

The outcomes of the project will be:

a) feasibility studies on the specific cases,
b) minutes of meetings (including agenda, list of participants, presentations, pictures, etc…),
c) report on the potential development of the technology application in the Med area.

A first meeting will be held in Bologna, the 27th of September 2019, with the involvement of regional, national and international stakeholder

ENI CBC MED CO-EVOLVE 4 BLUE GROWTH

Co-Evolve4BG project aims at analyzing and promoting the co-evolution of human activities and natural systems in touristic coastal areas, allowing sustainable development goals within

touristic activities based on the approach of Integrated Coastal Zone Management (ICZM)/Marine Spatial Planning (MSP) and thus fostering Blue Growth in the Mediterranean. This proposal is presented in the frame of the ENI CBC MED program's priority on environment-ICZM and constitutes a part of a wider project namely "Med Coast for Blue Growth" (MC4BG) – labeled by the 43 Countries of the UfM (S.O. meeting on 11/12/2017) in connection with the already running Co-Evolve project funded by Interreg MED program and in line with the strategic theme 2 of the Joint Action Plan (JAP) of the Bologna Charter Initiative, thus, producing an alignment of intervention, funding and synergies among the key players towards a major impact on the ground, and in particular on the Med partner countries concerned by the action (at cross boarder and transnational levels). The project focuses on the conditions for the co-evolution, as already addressed by the Interreg MED Co-Evolve project, extending its action towards the South & East Mediterranean Coastal Areas, and completing the framework of the MC4BG UfM labeled project. As is case with Interreg MED Co-Evolve, the analysis and the demonstration actions included in the project will produce results with a wide and long-lasting influence, fully exploiting the Blue Economy potential, promoting the creation of new markets and jobs in the field of ecosystem-oriented services (related to coastal and maritime tourism and coastal management & adaptation to climate change).

The project KICK-OFF meeting will be held in Tunisi the 18th of September 2019

Conclusion

CO-EVOLVE's methodology is now fully tested and ready to be adapted and transferred to other territories, which is the main aim of the project's transferring phase, which formally started in May 2019 to run until the end of the project, but actually started developing its basis already in 2017 with a number of different initiatives.

Mapping of the threats and enabling factors to Sustainable Tourism, the Toolkit to assess the sustainability of tourist destinations in the Mediterranean and the indications on Strategic planning at pilot areas level, are all the tools we have developed and which proved to be efficient when it comes to improve the way tourist destinations are managed.

We rely on this last phase of the project, as well as on the initiative linked to the Co-Evolve project started in the period 2017 -2019 to guarantee long-term impact of the project activities/results and replication at local/regional scales (beyond the territorial/administrative limits of the pilot area) and at Mediterranean level (national authorities). In particular, the initiatives we designed to ensure the extension of CO-EVOLVE's action and methodology to

other territories, to keep improving the management of activities related to Sustainable Tourism in touristic coastal areas in the Mediterranean, are the followings:
the Co-Evolve4BG, ENI CBC MED financed project starting officially in September 2019, involving LP and partners from Tunisia, partners from Lebanon, Greece, Italy and Spain;
the MedCoast4BG project initiative, labeled by UfM in December 2017 (by the UfM SoM of the 43 Med Countries), a pan Mediterranean umbrella project directed to regions and countries of the Southern and Eastern MED and Balkan area, especially Tunisia, Lebanon, Morocco and MontenegroM;
TOURIMPACT4BG, an Interreg IPA project involving Italian regions (Puglia and Molise) and Albania and Montenegro, application supported by UfM contracted experts assistance;
TAIEX, technical assistance projects for the transferring of Co-Evolve methodology in Morocco & Montenegro, application supported by UfM contracted experts assistance.
ECOMEDPORT - BlueMed Start-Up Actions: aims at the transferring the Cattolica harbor small scale investment technology to other harbor in Mediterranean basin.

Moreover, CPMR is currently pushing for CO-EVOLVE's methodology to be retaken and promoted by the future Interreg MED Axis 4 Strategic Projects on Maritime and Coastal Tourism.

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