

MPA Engage

Deploying the Quintuple Helix Participatory Approach in Mediterranean MPAs for effective decision-making against Climate Change: showcases & essential elements for success

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### **EXECUTIVE SUMMARY**

**Climate change is dramatically affecting** the Mediterranean Sea, which is warming at a rate three times faster (0.41°C per decade) than the world's average (0.13°C per decade). Marine Protected Areas (MPAs), despite the nature-based solution they offer to support efforts towards climate change adaptation and mitigation, also experience the effects of climate change. In fact, several Mediterranean MPAs are already facing major biodiversity and functional alterations due to climate change, whereas others will likely face them within the next few decades. There is, therefore, an urgency to mitigate these risks and to consider adaptation options, in partnership with local communities, decision-makers, civil society organizations, research bodies, and other socio-economic actors at local, national and regional level.

**MPA Engage** is an Interreg Med funded project that seeks to support Mediterranean MPAs to adapt to and mitigate the ongoing climate change effects in the Mediterranean. Within a period of three years, MPA Engage has provided essential support to managers of marine protected areas to fast-track actions against climate change. During this time, MPA managers and climate change experts from 14 entities and 6 different countries, namely Albania, Croatia, France, Greece, Italy and Spain, have been brought together and have evolved into a taskforce with a joint mission to promote MPAs as nature-based solutions for climate change adaptation. **Participatory approaches** are at the heart of the MPA Engage project; through a participatory approach, MPA Engage monitored in a harmonized way the climate change impacts, elaborated vulnerability assessments and developed climate change adaptation and mitigation action plans in the pilot MPAs.

At an early stage of the project, detailed guidelines were developed by MIO-ECSDE (Task Leader) aiming to guide the MPA Engage public participation processes that are key for all the phases of the elaboration of the climate change adaptation and mitigation action plans. These guidelines featured all those elements needed for designing and implementing participatory processes and addressed all key aspects, from selecting the appropriate participation tools to ensuring that all key actors are effectively engaged in the decision-making process. The guidelines deploy the quintuple helix approach that promotes the engagement of MPA managers, scientists, public authorities, socio-economic actors and citizens in the development of MPA climate change adaptation and mitigation action plans. In addition to the guidelines, a related capacity building webinar was organized and the managers of the pilot MPAs were technically supported by MIO-ECSDE at every step of the participatory process.

**The 7 pilot MPAs** of the project that tested the aforementioned guidelines were the following: Brijuni National Park (Croatia), Portofino MPA (Italy), Calanques National Park (France), Zakynthos MPA (Greece), Cap de Creus MPA (Spain), Litoral del Baix Empordà MPA (Spain) and Tavolara MPA (Italy).

**This document** is a synthesis report of the results, outcomes and lessons learned of the quintuple helix participatory approach implemented in the 7 pilot Mediterranean MPAs, with the aim to identify and adopt priority climate change adaptation and mitigation measures. The report features the experiences gained by deploying the MPA Engage "Guidelines for applying a Quintuple Helix Participatory Approach" and features the essential elements for success for any participatory process plan implemented in Mediterranean MPAs. The collective experience of the pilot MPAs sets the foundations for a joint participatory approach in Mediterranean MPAs to deal with the rapidly increasing challenge of climate change. This approach, along with its strategic elements, is captured in the present document which aims to assist other MPA managers in the region to achieve their conservation goals.

**Participation** means many things to many people. It carries potential benefits, but only if all those involved have a common understanding and set of expectations. Plans, methods, tools and techniques do not guarantee participation. The showcases of the MPA Engage quintuple helix participatory process, illustrate that public participation is a context-driven process, where the full understanding of the political, cultural and institutional context at local, national, regional and global level is needed. The experiences described in this document highlight some of the various challenges posed by the complex and multidimensional local and national contexts in which the participatory process was introduced. Factors affecting the successful outcome of the participatory process were identified at different levels: individual, community, organizational, political, economic, etc. It should be highlighted that these factors are intertwined and affect each other in very complex ways.

**All pilot MPAs** that operationalized the MPA Engage participatory process plan reported that the overall process was comprehensive, wellarticulated and educative, concretely enabling them to put together the different components of the MPA Engage pilot actions, namely the monitoring results, the vulnerability assessments, the citizen science actions, and the actions to elaborate climate change adaptation and mitigation plans. Despite challenges that had to be dealt with, the experience strengthened the capacities of all those involved in the participatory processes, generated commitment to promote MPAs as natured-based solutions to tackle climate change, established and/or strengthened alliances among key stakeholders, and emphasized the potential of the participatory process as a powerful tool to generate constructive discussion among communities related to climate change. The MPA Engage showcases demonstrate that supporting the implementation of participatory processes can successfully lead to effective decision-making for climate change adaptation and mitigation in Mediterranean MPAs.



### **1. INTRODUCTION**

Climate change is dramatically affecting the Mediterranean Sea, which is warming three times faster (0.41°C per decade) than the world's average rate (0.13°C per decade) (IPCC, 2019, Pisano et al., 2020).

### **1.1 Climate Change in Marine Protected Areas**

Climate change is amplifying the effects of existing threats to marine ecosystems and is reshaping their biophysical and chemical characteristics, from increased water temperature, sea-level rise, and extreme events, to ocean acidification, with serious consequences for natural systems (Cramer et al. 2018, Grorud-Colvert et al., 2021). The Mediterranean marine ecosystems are experiencing the following macroscopic and measurable impacts: (i) the shift towards more thermophilic biota; (ii) an increased vulnerability to tropical invaders; (iii) the increased occurrence of phenological shifts; (iv) the occurrence of unprecedented large-scale mass mortality events (Cramer et al., 2018; Garrabou et al., 2019; D'Amen, M., & Azzurro, E., 2020; MedECC, 2020).

This rapid transformation of the Mediterranean biota, is producing a novel scenario in which multiple and combined pressures are increasingly eroding the functioning and health of marine and coastal ecosystems, impacting the multiplicity of ecosystem services that the Mediterranean society relies on such as food production, flood and erosion control, carbon storage, sequestration and water quality (Figure 1-1).

By only covering 0.82% of the ocean surface, the Mediterranean Sea supports a high level of biodiversity, including about 18% of all known marine species and its rapid warming, in synergy with other climate and non-climate related drivers, threatens some key ecosystems that have high vulnerability to such pressures (e.g., coralligenous, Posidonia habitats, marine caves, infralittoral habitats) (Coll et al., 2010, MedECC, 2020). Despite the designation of Marine Protected Areas (MPAs) to effectively protect such ecosystems and the nature-based solution they offer to support efforts towards climate change adaptation



Figure 1-1. Daily warming trend in the Mediterranean basin from 1982 to 2019. Each contour denotes a change of 1.5×10-5 °C/day. (Pastor et al., 2020).



and mitigation, they also experience the widespread and pervasive effects of climate change that may challenge their effectiveness to fully protect biodiversity. In fact, several Mediterranean MPAs are already facing major biodiversity and functional alterations due to climate change, whereas others will likely directly face them in the next few decades (Gomez-Gras et al., 2021).

Even though it is difficult to foresee with precision to what extent the current climatic trends will affect the effectiveness of Mediterranean MPAs and their ability to meet their biodiversity and conservation goals now and in the future, most recent studies indicate the increased risk of extinction of endemic fauna, loss of habitat complexity and changes in ecosystem configurations, while the socioeconomic effects are not well-studied yet. Consequently, climate change requires a more concerted effort by Mediterranean conservation strategies and management to restore, preserve, and protect the ecological integrity and resilience so MPAs can adapt to environmental changes and withstand the additional stress of climate change.

There is an overwhelming scientific consensus that supporting marine conservation under climate change is one of the grand challenges for the coming decade (Borja et al., 2020). The Mediterranean MPAs face an urgent need to pursue evidence-based solutions to the biodiversity decline and the unprecedented pressures from climate change in the region. There is, therefore, an imperativeness to mitigate these risks and to consider adaptation options in partnership with local communities, decision-makers, civil society organizations, research bodies, and other socioeconomic actors at local, national and regional level.

## **1.2 The role of marine** protected areas in the face of climate change

MPAs are recognised as one of the strongest and effective tools for protecting marine life and the livelihoods of coastal communities (Sala et al., 2021). While the effectiveness of MPAs to halt global climate change impacts such as ocean acidification has been questioned (Bruno et al., 2018), there is growing evidence for their role as important areas for enhancing the resilience and adaptive capacity of ecosystems (Tittensor et al., 2019). The long-term, placebased nature of MPAs provides an advantage in addressing the impacts of climate change by providing a focal area for management and science to reduce stressors, to monitor conditions and trends, and engage with the public. MPAs and related networks that work together to meet objectives beyond those of a single area by protecting areas from degradation and allowing the recovery of ecosystems can contribute to addressing climate change through a number of different routes:

- Reduce other non-climate ocean stressors
- Function as important carbon sinks
- · Provide ecologically connected corridors for shifting species
- Provide refuge and replenishment zones
- Reduce risk and promote resilience
- Serve as sentinel (research) sites to monitor climate change effects
- Raise awareness and educate local communities
- Provide numerous ecosystem services

MPA management and planning that ignore potential climate change impacts or that are based on unrealistic

generalizations, might result in conservation targets or indicators that are unlikely to be achieved (Katsanevakis et al., 2020). However, despite recognition of the importance of integrating climate change as a core consideration for MPA planning and implementation, and the development of conceptual approaches and decision support tools for over a decade, the uptake of these measures into management and policy appears limited and/or uncoordinated (Tittensor et al., 2019). The latest Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Global Assessment indicates that there are "few protected areas whose objectives and management take climate change into account" while only limited studies exist on this issue, with no comprehensive synthesis (Rilov et al., 2020; IPBES, 2019).

As MPAs need to anticipate and prepare for the socioecological effects of climate change, they require adaptive management to enable them to tackle problems, while they are still manageable. In order to be effective and to better understand the transboundary impacts of climate

change, monitoring programmes targeting multiple indicators for ecological and social effectiveness in MPAs are essential. Long-term monitoring is necessary to fill in the data gaps, in particular in terms of distinguishing natural variability and climate change impacts on biodiversity at multiple levels. Such data will shape future adaptation and mitigation scenarios, but given the threats from climate change and the need to act urgently, actions should be undertaken on the basis of available information, while also advancing, strengthening and deepening the associated knowledge base (Simard et al., 2016).

**Participatory engagement** of local communities in all steps of this anticipatory process is perhaps the most important component to ensure increased support and long-term sustainability. It is essential to provide and encourage climate-smart management around the principles of inclusiveness and capacity transfer, to enable cross-sectoral sharing of successful experiences and best management practices, while promoting regional cooperation for the management of climate change resilient MPAs.



### **1.3 The MPA Engage project** in a nutshell

In order to address some of the aforementioned challenges, the MPA Engage project kick-started in 2019. MPA Engage is an Interreg Med funded project seeking to support Mediterranean MPAs to adapt to and mitigate the ongoing climate change effects in the Mediterranean Sea. Within a period of three years, MPA Engage has provided essential support to managers of marine protected areas to fast-track actions against climate change. During this time, MPA managers and climate change experts from 14 entities and 6 different countries, namely Albania, Croatia, France, Greece, Italy and Spain have been brought together and have evolved into a taskforce with the joint mission to promote MPAs as nature-based solutions for climate change adaptation.

The MPA Engage project entailed testing, transferring and capitalization activities that were coordinated by CSIC. The ultimate goal of the MPA Engage project was to support managers of the pilot MPAs in managing the cumulative impacts of climate change on their areas via the definition of an effective societal response. To this end, harmonized and novel tools were provided to the pilot MPAs to facilitate the implementation of 5-fold pilot actions, which focused on:

- Harmonized monitoring of the climate change effects and impacts in MPAs (Led by SZN);
- Assessment of the ecological and socio-economic vulnerability of MPAs to climate change (Led by UVIGO);
- Engagement of local communities in citizen science activities to monitor the climate change effects and impacts in MPAs (Led by UNIVPM);

- Engagement and mobilization of all key actors of the quintuple helix participatory framework (Led by MIO-ECSDE):
- Elaboration of climate change adaptation plans (Led by MIO-ECSDE).

The 7 pilot MPAs of the project that implemented the aforementioned activities were the following: Brijuni National Park (Croatia), Portofino MPA (Italy), Calanques National Park (France), Zakynthos MPA (Greece), Cap de Creus MPA (Spain), Litoral del Baix Empordà MPA (Spain) and Tavolara Punta Coda Cavallo MPA (Italy).

It should be noted that in the early stages of the project, an additional pilot MPA, the Karaburun - Sazan Marine Park (Albania) was involved in the aforementioned activities. However, due to administrative difficulties it was not possible to complete the respective pilot.



### Figure 1-2.

Map of the Mediterranean Sea, with the mean annual surface temperature and the location of the 7 pilot MPAs. The temperature data are extracted from Assis et al., 2017.

### 1.4 Participatory approaches at the heart of the MPA Engage project

**Participatory approaches** are at the heart of the MPA Engage project; through a participatory approach, MPA Engage monitored in a harmonized way the climate change impacts, elaborated vulnerability assessments and developed climate change adaptation and mitigation action plans in the pilot MPAs.

At an early stage of the project detailed guidelines were developed by MIO-ECSDE (Task Leader) aiming to guide the MPA Engage public participation processes that are key for all the phases of the elaboration of the climate change mitigation and adaptation action plans (Vlachogianni, 2020). These guidelines featured all those elements needed for designing and implementing participatory processes and addressed all key aspects, from selecting the appropriate participation tools to ensuring that all key actors are effectively engaged in the decision-making process. The guidelines built upon the quintuple helix approach of the Interreg Med MPA-ADAPT project that promoted the engagement of MPA-managers, scientists, public authorities, socio-economic actors and citizens in the development of MPA climate change adaptation action plans (Garrabou et al. 2019). It should be highlighted that the guidelines depict wide-ranging types of participation tools and methods that can be applied in different setups and conditions.

**In addition** to the guidelines, a related capacity building webinar was organized and the managers of the pilot MPAs were technically supported by MIO-ECSDE along every step of the participatory process.



### **1.5 About this document**

This document is a synthesis report of the results, outcomes and lessons learned of the quintuple helix participatory approach implemented in the 7 pilot Mediterranean MPAs with the aim to identify and adopt priority climate change adaptation and mitigation measures. The report features the experiences obtained by deploying the MPA Engage "Guidelines for applying a Quintuple Helix Participatory Approach" and features the essential elements for success for any participatory process plan implemented in Mediterranean MPAs. The collective experience of the pilot MPAs sets the foundations for a joint participatory approach in Mediterranean MPAs to deal with the rapidly increasing challenge of climate change. This approach, along with its strategic elements, is captured in the present document, which aims to assist other MPA managers in the region to put Mediterranean MPAs at the frontline of adaptation and mitigation to climate change.





2. PARTICIPATORY APPROACHES IN ENVIRONMENTAL DECISION-MAKING: KEY DEFINITIONS AND CONCEPTS

In its simplest terms, a participatory approach is one in which everyone who has a stake in an intervention has a voice, either in person or by representation.

# 2.1 What is a participatory approach?

Anyone affected by a decision has the right to be involved in the decision-making process. This is the basic premise of a participatory approach and public participation. Public participation allows stakeholders to influence decisions that affect their lives. It is the process by which an organisation/ body consults with interested or affected individuals, communities, organisations, and public entities, before making a decision. Public participation is a two-way communication and collaborative problemsolving process with the goal of achieving better and more acceptable decisions.

## 2.2 Why implement a participatory approach? Key benefits and outcomes

A participatory approach offers stakeholders a sense of ownership of the decision-making process and builds a strong base for the process within the community. It provides to the stakeholders an opportunity to express their concerns and have those concerns addressed. So even if stakeholders disagree with the final decision, it is likely that they are more willing to accept the outcome, having been part of the process that they consider to be legitimate.

A participatory approach that targets the largest possible number of parties affected by the decision-making process is usually considered as a guarantee for the 'democratic spirit' and 'openness' of the process and for the stability and viability of whatever eventual decisions and agreements might be reached.

A participatory approach brings a broader range of people to the planning process, thus providing access to a broader range of perspectives and ideas. In addition, it enables a reality-check when it comes to the local context and specificities and thus it is instrumental in avoiding pitfalls caused by ignorance of the realities of the community or the target population.

A participatory decision-making process builds trust within the communities, which can serve as a foundation for future community development and community action. Furthermore, if conducted successfully, a participatory approach process can lead to the development of capacity in managing challenging social problems. This capacity includes improved relationships between decision-makers and the public, and among the stakeholders themselves. Public participation educates stakeholders on collaborative ways to approach each other, manage difficult decisions and even resolve disputes. Along the process, stakeholders also learn about each other's views and interests, hence they start to appreciate different positions among themselves.

Finally, a participatory approach is the most ethical way for any kind of decision-making process. It brings transparency, prevents or deals with conflicts and leads to less misunderstandings, litigation and delays in decisionmaking and implementation in the long term, safeguarding and reinforcing democracy.

In sum, effective and meaningful participatory approaches are essential to:

- enable high quality and democratic governance;
- strengthen civil capacity;
- develop and deliver programmes effectively and efficiently;
- build public confidence and trust in decisions;
- generate a greater understanding of public issues, concerns, priorities and solutions;
- build broader support for programmes and initiatives;
- increase mutual learning through the sharing of information, data and experiences;
- ensure that decisions and policies incorporate knowledge and expertise that otherwise might be overlooked;
- reflect a wider range of public concerns and values in decision-making;
- rapidly identify possible controversial aspects of an issue and help bring together different points of view to achieve consensus in a collaborative manner.

## 2.3 Main challenges in designing and implementing a participatory approach

**Participatory approaches** and public participation require human and financial resources. Allocating funds and securing commitment to public participation may seem secondary but in fact is very important. Finding individuals skilled in participatory approaches and familiar with the specific context might prove challenging.

**Participatory approaches** are also a context-driven process. Full understanding of the political, cultural, and institutional context at local, national, regional, and global level is needed. Language barriers or even illiteracy may impair communication. 'Translating' technical text to layman's terms can be demanding. Moreover, not all stakeholders have access to various media (internet, television, newspapers).

**Challenges** in planning and implementing participatory approaches may include lack of clear goals and understanding of the process, inadequate planning, and lack of feedback on issues raised by stakeholders. This might be caused by inadequate human resources, budgetary constraints, or poor institutional arrangements such as weak governance. Political dynamics where political parties always fight for influence might play a role as well.

Aparticipatory decision-making process takes patience and commitment on everyone's part. People have to maintain their commitment over time, remain civil while discussing issues about which they may have strong feelings, and be willing to compromise.

## 2.4 An overview of levels and techniques of participatory approaches

**Participatory decision-making** processes are very contextdriven processes, and needs and requirements of each process vary. There is no blueprint to follow. Every case is unique, with specific needs, goals, stakes, interests, stakeholders, history, setting, etc.

**During a participatory process** there can be different levels of involvement of participants, reflected by the so called "participation ladders" (see Fig. 2.1). The different "steps" in the ladder -listed below- describe the level of involvement of participants. The ladder goes from simply informing the stakeholders (the minimum in any participatory approach process) to empowering the participants, which is the highest level of involvement - the final decision-making is placed in stakeholders' hands (Figure 2-1).

A wide variety of tools and techniques can be utilized by practitioners when setting up participatory processes. As shown in the table 2-1 below the tools and techniques may vary depending on the desired level of involvement and participations.





### **INCREASING LEVEL OF STAKEHOLDER'S IMPACT**



### Figure 2-1.

The participation ladder: the different "steps" in the ladder describe the level of involvement of participants (Roniotes et al., 2015).

## **EMPOWERING**

Finally, by empowering the stakeholders you place final decision-making in their hands. This means that the control of some decision-making is delegated to the participatory actors. So, basically this way they are empowered to influence the final decision.

# INVOLVING

When involving the stakeholders, you work directly with them throughout the process (i.e. in analysing the knowledge basis, in setting a common vision, etc.) to ensure that their concerns and aspirations are consistently understood and considered. It goes a step deeper than consulting. It is not until stakeholders are actively involved that they truly begin to develop ownership over decisions and are more likely to support the final decision.

Collaboration with the stakeholders, on the other hand, means to partner with the alternatives and the identification of the preferred solution. At this level, all stakeholders are on equal level, working together for common goals.

# **INFORMING**

Informing the stakeholders is the minimum in any participatory approach process, and plainly speaking, it's not even actual participation. But it is the first baby step to take, especially when you have no prior experience of the process. Informing is a one-way flow of information (passive), serving the purpose of 'access to information', one of the main prerequisites of public participation and participatory approaches.

# CONSULTING

on analysis, alternatives, and/or decisions. Consulting the stakeholders may provide them a help of interviews, surveys, and questionnaires, So, consulting with the stakeholders is a twoask the participant's opinions and values.



### **COLLABORATING**

## Levels of participation & examples of associated techniques (Campos et al., 2018)

LEVELS OF PARTICIPATION	DEFINITION	TECHNIQUES	
INFORMING	Means that information about what is being done, or planned to be done, is provided to all.	Website, campaign, information meeting	
CONSULTING	Means that some channels are organized that allow feedback from the actors/stakeholders to be heard by the decision-maker.	Focus groups, stakeholder workshops	
INVOLVING	Allows for stakeholders to provide elaborated advice to the decision- maker, as part of a conversation.	Focus groups, stakeholder workshops	
COLLABORATING	Means that the decision-making capacity is implicitly or explicitly shared through the principles of collaboration, understanding that participants are partnering together to find good solutions. The final decision should be influenced by what is recognized and agreed in the cooperation.	Focus groups, stakeholder workshops	

Table 2-1



## 3. THE MPA ENGAGE QUINTUPLE HELIX PARTICIPATORY APPROACH

All pilot MPAs applied a common 6-step approach when designing their participatory process

## 3.1 The MPA Engage participatory process phases

**Each pilot MPA** considered the following six essential steps when designing their participatory process:



**STEP 1** - Case description. Firstly, a good solid description of each pilot MPA case, namely the MPA Engage pilot was elaborated, followed by the definition of the objectives of the participatory process within the framework of the MPA Engage project. The following set of questions and their corresponding answers were instrumental: Why are you doing this? What are the desired results? What is needed to reach the desired results? What are the expected challenges? Emphasis was placed on being clear and concise. The case description set the basis and the framework for the participatory processes launched in the 7 pilot MPAs.

STEP 2 – Situation assessment. To really understand the needs and conditions of each participatory process, a situation assessment was conducted. Such an assessment consisted of gathering information that helped determine the participatory process to be followed and the specific techniques and tools that are feasible given the circumstances. The main purpose of the situation assessment was to identify the conditions (degree of a common understanding of the decision to be made, the issues to be addressed, and the role of the public in the process) necessary for a successful public participation process that reflects the needs and interests of both the decision-makers and stakeholders.

**STEP 3** - Establishment of the participatory process objectives. The situation assessment provided a good picture of what the pilot MPAs would have to deal with. On the basis of that the participatory process objectives were revisited and refined. Effort was placed on setting objectives that are realistic and as measurable as possible. The objectives of the participatory process should to state the appropriate role of the stakeholders in the process, how their input will be used, and what input would they need to provide.

STEP 4 - Linking public participation & the decisionmaking process. Meaningful participation requires that participatory activities are integrated within the stages of the decision-making process. The pilot MPAs sought to ensure that all stakeholders have the same understanding and expectations regarding the decision-making process, as well as how and when their input will be obtained. A timeline or some sort of a visual representation was considered helpful. In addition, in order to clearly map out the decision-making process and link it to the public participation process the following key considerations were taken into account: What are the key steps and timing of the process? At which points will stakeholder's input be obtained? How will the stakeholders be kept informed throughout the process? How will decision criteria be established? How will alternatives be developed? Who will make the final decision? How will it be communicated?

STEP 5 - Selecting the form and tools for the participatory process. Depending on the needs and requirements of each participatory process the most appropriate tools and methods were selected by each pilot MPA.

STEP 6 - The participatory process plan. This plan compiled all the information, objectives, resources, roles, timetables, etc. of the overall participatory process for each pilot MPA.

> 6. THE PARTICIPATORY **PROCESS PLAN**

CASE

DESCRIPTION

SITUATION ASSESSMENT

> 3. ESTABLISHMENT OF THE PARTICIPATORY PROCESS OBJECTIVES

4. LINKING PUBLIC PARTICIPATION & THE DECISION PROCESS

SELECTING THE FORM & OOLS FOR THE PARTICIPATORY PROCESS

5.

Figure 3-1. The 6 key steps for designing the MPA Engage participatory process.

## **3.2 The MPA Engage quintuple** helix approach

In line with the MPA Engage quintuple helix approach, the engagement of the following groups should be ensured in the elaboration process (planning process) of the local climate change mitigation and adaptation plans:

- MPA-managers: MPA managers are in charge of incorporating climate change adaption and mitigation measures into the MPA management plans through a participatory approach, supported by monitoring and vulnerability assessments.
- Socio-economic socio-economic actors: Local stakeholders include associations, cooperatives, civil society organizations, non-governmental organizations, foundations, and businesses.
- Scientists: These include members of the research and academic community, including those that provide science advice via established routes at local, national or European level.
- Public authorities: These include public authorities at national, regional and local levels.
- Citizens: Citizens are people in society that do not primarily belong in the four groups above. These may include educators, journalists, individuals, etc.



Citizens

Public **Authorities** 

## **3.3 The MPA Engage** participation matrix

Adapting and simplifying the "Participation Matrix" proposed by the EU FP7 research project entitled "Bottom-Up Climate Adaptation Strategies Towards a Sustainable Europe (BASE)" (Hastrup et al., 2015), the MPA-ENGAGE Participation Matrix was defined as shown in the figure below. The MPA-Engage Participation Matrix aimed to provide conceptual clarity when designing and implementing a participatory process. The dimensions of the matrix include: level of participation, stakeholders involved in the participation process, the climate change adaption planning process phases. These phases include the following: initiative/decision to act (how the adaptation process begins); development of potential adaptation and mitigation options (by those involved in the process); decision-making (what measures will be implemented), and finally implementation.



Figure 3-3. The MPA Engage participation matrix.



# **3.4 Monitoring and evaluating the participation process**

Monitoring and evaluation is a critical part of any process or project management scheme. Monitoring and evaluation processes serve as a corrective function during the endeavour's life span, enabling timely adjustments and helping getting input for future work. When planning the monitoring and evaluation of the MPA Engage participatory process a lot of emphasis was placed on being clear about what exactly would be evaluated. Monitoring and evaluating the participatory process itself is one thing, while assessing the impacts of the final outcomes of the process is another.

Effort was made since the design phase to keep the evaluation process as simple as possible and below are listed some basic questions that were considered:

- Has the initiative succeeded? (e.g. met targets, met objectives, resulted in other achievements)
- Has the process worked? (e.g. what happened, what worked well and less well, and lessons for future participatory activities)
- What impact has the process had? (e.g. on stakeholders, on the ones who commissioned the participatory process, on the quality of policy, etc.).

The specific indicators used to measure the progress of the participatory processes and their respective results are listed in the next paragraph.decision-making (what measures will be implemented), and finally implementation.

## **3.5 The MPA Engage participatory process plan**

In order to concretely facilitate the MPA Engage partner MPAs in setting up and implementing a participatory process for the elaboration of the climate change adaptation and mitigation plans, a draft participatory process plan was elaborated. This plan provided a solid basis - the *minimum minimorum*- for harmonized actions when it comes to organizing a participatory process within the scope of the project; however, it should be noted that the plan was enriched and/or modified to meet the needs of the pilot MPAs in order to carry out more effective participatory processes. In the sections below all key elements of the MPA Engage participatory process plan applied by the pilot MPAs are listed:

**Aim:** The MPA Engage participatory process aimed to effectively involve all stakeholders' groups in the elaboration of the climate change adaptation and mitigation plans foreseen within the scope of the MPA Engage project.

Areas of influence of the MPA-ENGAGE project: Each pilot MPA started by determining the geographical area to be impacted by the project and ways to engage with stakeholders in each area. In most cases the geographical areas to be affected by the project were those that fall in the jurisdiction of the pilot MPA involved in the project.

**Stakeholders mapping:** Each pilot MPA created an exhaustive list of their stakeholders so that they could begin to understand them, their motivations and how to engage with them. The following information for each stakeholder was recorded:

- stakeholder's organization/institution
- type of organization/institution (in accordance with the quintuple helix approach)
- stakeholder's position/function
- stakeholder's name (last, first)
- stakeholder's email
- stakeholder's location (country, region, city)
- scope of the organization/institution (local, national, regional, international)
- impact; how much does the project impact them? (low, medium, high)
- influence; how much influence do they have over the project? (low, medium, high)
- · level of engagement of the stakeholder (informing, consulting & involving, collaborating & empowering)
- planned action of engagement of the stakeholder
- foreseen frequency of engagement of the stakeholder



Stakeholderengagementactivities: The following engagement activities were recommended to each pilot MPA:

### List with the key actions foreseen to be implemented within the scope of the MPA Engage participatory approaches

ACTION No	DESCRIPTION
ACTION 1	Set up a webpage MPA Engage proj Engage project a
ACTION 2	Organize a briefin overview of the M objectives, frame and outcomes. Pa elaborating clima and explain how s briefing can be fo for feedback.
ACTION 3	Use your social m informed about t
ACTION 4	Develop and disse Engage updates i (monitoring activ science).
ACTION 5	Organize an onlin the local COVID-1 collected and the discussion and ex of wide-ranging a explain what they Announce the up
ACTION 6	Setup a web-base mitigation measu and/or effective a climate change a
ACTION 7	Organize a conse to discuss the sur experts and partic climate change a
ACTION 8	Organize a final w change adaptatic

e -a dedicated section of your page to the ject- and share information on the MPA nd its activities in the MPA.

ng webinar with the aim to provide an IPA Engage project. Present the aims, work, main lines of action, expected results ay special attention to the process of ate change adaptation and mitigation plans stakeholders can be involved and when. The ollowed by discussions and serve as a forum

edia channels to keep your stakeholders he MPA Engage national activities.

eminate regular press releases on MPA related to the national project activities vities, vulnerability assessment, participatory

ne or physical public meeting, depending on 9 restrictions. Present the monitoring data vulnerability assessment results. Facilitate change views on the findings. Present a list adaptation and mitigation measures and y entail (it will be provided by WP4 Leader). coming poll for shortlisting the measures.

ed survey and list potential adaptation and ures. Ask stakeholders to shortlist priority and feasible measures to be included in the adaptation and mitigation plan.

nsus building meeting (online or physical) vey results. Establish a dialogue between icipants. Develop the draft contents of the daptation and mitigation plan.

webinar to share the contents of the climate on and mitigation plan.

Table 3-1



**Resources and responsibilities:** The pilot MPAs were asked to create an internal structure that contained each team member's responsibility. It was strongly recommended that they develop detailed job descriptions for each team member position and that they elaborate an organisational chart with the hierarchy of roles.

Monitoring and reporting: In order to keep track of their participatory processes, the pilot MPAs were provided with a participatory process reporting template that lists a set of pre-selected indicators:

### List of quantitative indicators:

- Number of stakeholders participating in the engagement activities
- Numbers of stakeholder workshops/meetings and attendance levels of various stakeholder groups
- Number of women participating in the engagement activities
- Number of comments submitted/received throughout the participation process (grouped into categories e.g. supportive, against, informative, etc.)
- Number of comments incorporated into process decisions/ documents
- Number of information products created and disseminated to stakeholders
- Number of press releases
- Number of radio/newspaper articles/newsletters of relevance
- Number of hits on process website



### List of binary and qualitative indicators:

- Was a common vision agreed? (Yes/No)
- Was an action plan agreed? (Yes/No)
- · Quality and timeliness of information available to stakeholders (Yes/No)
- · Level of concern of different stakeholders on the environmental/development issue at hand (high, medium, low)
- Level of interest of different stakeholders to be involved in the participatory process and the final decisionmaking process (high, medium, low)
- Quality of stakeholder interactions (high, medium, low)

## **4. METHODOLOGICAL FRAMEWORK FOR DEVELOPING A LOCAL CLIMATE CHANGE ADAPTATION AND MITIGATION PLAN**

Meaningful participation requires that participatory activities are wellintegrated within the stages of the decision-making process.

### **4.1 Introduction**

Meaningful participation requires that participatory activities are well-integrated within the stages of the decision-making process. This section provides an overview of the methodological framework deployed for setting up the decision-making process for the elaboration of the climate change adaptation and mitigation plans in the pilot MPAs via the quintuple helix participatory approach.



## 4.2 The DPSIR framework at the heart of the MPA **Engage planning process**

At the heart of the MPA Engage planning process lay the DPSIR framework (Driving Forces-Pressures-State-Impacts-Responses).

- pressures on the environment.
- on the environment.
- the environment.
- environmental situation.

The DPSIR framework illustrates the dynamic nature of planning and it presents a logical, stepwise chain of cause-effect-control events that describe the progression from the identification of an environmental problem to its management. The DPSIR approach is widely acknowledged as a valuable tool for analysing cause-effect-response links, determining management measures and communicating these aspects to wide-ranging stakeholders.

• Drivers are the socio-economic and socio-cultural forces driving human activities, which increase or mitigate

• **Pressures** are the stresses that human activities place

• State, or state of the environment, is the condition of

• Impacts are the effects of environmental degradation.

• Responses refer to the responses by society to the



## **4.3 Overview of the five-phase** process for crafting a local **Climate Change Mitigation** and Adaptation Plan

Within the MPA Engage project we adopted the fivephase process proposed by Scoullos et al., 2015. Each of the five phases includes a number of tasks and each task a series of steps, actions, deliverables and outputs. It should be highlighted that the various phases of the planning process should not be seen necessarily as distinct steps but as parts of a continuum.

Phase 1 – Establishment: The overall aim of the establishment phase is to make known the intention for drafting the plan and identify the convening body responsible for the overall coordination of the planning. All parties that should be involved were identified and a core group/team with the mandate to prepare and implement the plan was established. At this early stage, effort was directed to identify the stakeholders and design the stakeholders' engagement and participatory process, in line with the MPA Engage guintuple helix approach.

Phase 2 – Analysis and Scenarios: The aim of the analysis phase is to establish the foundation on which the preparation of the plan and its implementation will be based. Any available information on the climate change issue impacts and vulnerabilities was collected, including information on pre-existing relevant plans. In parallel, within this stage the engagement of stakeholders in line with the MPA Engage participatory process plan was initiated.

Phase 3 – Setting the Vision: The aim of this stage is to achieve the engagement and consensus building with the stakeholders and the wider community on the action plan based on the findings from the phases 1 and 2. Within this stage stakeholders were engaged in the identification of the key problems and issues for the plan to deal with and will set the course for the eventual 'shape' of the plan and its implementation by reviewing the proposed scenario (from Phase 2).

Phase 4 – Designing the Future: The aim of this stage is the actual drafting and finalization of the local climate change mitigation and adaptation plan, which will contribute in shaping the future of the MPA. The local plans indicatively included: the goals and objectives of the plan, a preamble explaining the scope and process followed for its production and approval, the context derived from the analysis, the governance structure, the institutional framework for implementation, the priority climate change adaptation and mitigation measures agreed upon by the different stakeholders along with a roadmap for their implementation. Within this stage stakeholders were engaged in the finalization and final adoption of the local plan.

Phase 5 – Realizing the Vision: The aim of this final phase is to operationalise the adopted climate change mitigation and adaptation plan and provide for its constant improvement. Within this stage the necessary actions will be undertaken for the operationalization of the action plan, including getting access to funds and monitoring and reviewing the implementation of the action plan.

It should be highlighted that the completion of the first four phases (Phase 1-4) were achieved within the scope of the MPA Engage project, while the actual implementation of the action plan (Phase 5) will be dealt with through follow-up projects and/or initiatives.



# QUINTUPLE

Setting the Vision

Realizing the Future

**5. PILOTING THE MPA ENGAGE QUINTUPLE HELIX PARTICIPATORY APPROACH: EXPERIENCES & LESSONS LEARNED** 

This section presents the overall experiences and main lessons learned from the application of the quintuple helix participatory approach methodology in the 7 pilot Mediterranean MPAs.

### **5.1 Overview of showcases**

**Theinformationwascompiled** from reports submitted by the pilot MPAs to MIO-ECSDE. The reports describe in full detail the activities implemented within the framework of the MPA Engage participatory process in each pilot MPA and feature the overall results, and outcomes. They also capture the major successes, challenges and lessons learned and respond to a number of questions as indicated in the list below:

- Wastheprocesssuccessful? Where the targets and objectives met, resulted in other achievements?
- What worked well? What were the main elements of success?

- What didn't work well? What were the main difficulties encountered?
- How did you cope with the encountered challenges? What would you do differently?
- Did conflicts of interest arise during your participatory actions? If, yes how to did you address them?

### Overview of the main progress indicators reported within the different showcases

Pilot MPA	Number of stakeholders involved in the process	Number of stakeholder workshops/ meetings	Number of women involved	Number of comments submitted
Brijuni National Park (Croatia)	36	2	22	
Portofino MPA (Italy)	60	9	10	
Calanques National Park (France)	29	2	4	
Zakynthos MPA (Greece)	52	4	10	5
Cap de Creus MPA (Spain)	39	5	10	99
Litoral del Baix Empordà MPA (Spain)	70	5	17	128
Tavolara MPA (Italy)	14	4	3	26

Overall the pilot MPAs engaged 300 stakeholders (see table below), with half of them (51%) being socio-economic actors. The main socio-economic actors were: professional and recreational fishermen, divers, boaters, tourism professionals and environmental NGOs. Regarding public authorities (11% of all stakeholders involved), these mainly consisted of municipalities and local or regional authorities, while in some cases representatives of national authorities partook in the process.

Table 5-1

Number of stakeholders engaged in the quintuple helix participatory process to elaborate climate change adaptation plans in the pilot MPAs

Pilot MPA	Number of socio- economic actors	Number of scientists	Number of MPA managers	Number of public authorities	Number of citizens	TOTAL
Brijuni National Park	6	0	28	2	0	36
Portofino MPA	50	6	4	0	0	60
Calanques National Park	18	6	5	0	0	29
Zakynthos MPA	6	12	8	5	21	52
Cap de Creus MPA	21	3	4	11	0	39
Litoral del Baix Em- pordà MPA	41	13	2	14	0	70
Tavolara MPA	9	2	1	1	1	14
TOTAL	151	42	52	33	22	300



The table below provides an overview of the main costs involved in the implementation of the quintuple helix participatory planning process and the elaboration of the climate change adaptation plan for each MPA. The displayed labour costs (expressed in full-time equivalent, FTE man-days) and other costs are rough estimates taking into account the information provided by each partner MPA. The reported costs refer to the following: (i) planning, implementing and reporting of the activities, (ii) coordination of the external contractors (when applicable), (iii) organization of stakeholder events and/or participation in related events, (iv) communication actions.

## Overview of the costs involved in the implementation of the quintuple helix participatory planning process.

MPA	Imple- menting body (EXT or MPA)	MPA work time in FTE (man- days)	MPA staff FTE cost (€)	Total MPA staff cost (€)	Exter- nal con- tractor cost (€)	Stake-hold- er face-to- face events costs (€)	Stake-hold- er online events costs (€)	TOTAL COST
Brijuni National Park	MPA & EXT	30	80	2400	6000	3500		11.900
Calanques National Park	MPA	32	350	11200				11.200
Cap de Creus MPA	MPA & EXT	20	203	4060	13940			18.000
Litoral del Baix Empordà MPA	MPA & EXT	20	203	4060	13940			18.000
Portofino MPA	MPA	20	170	3400				3.400
Tavolara MPA	MPA & EXT	5	160	1600	26800			27.600
Zakynthos MPA	MPA	25	80	2000				2.000

### *Figure 5-1.* Distribution of the stakeholders in the five quintuple helix stakeholder groups.

Table 5-3

As shown in Table 5-3, the MPA work time in FTE man-days ranged from 5 man-days in Tavolara MPA to 32 man-days in Calanques National Park. On average 22 man-days of MPA work time are required in order to implement the quintuple helix participatory planning process and elaborate the climate change adaptation plan. In terms of total costs, including external assistance, these varied from 2000€ to 27600€ between MPAs, while the average total cost is estimated around 13000€. Such large cost range is mainly the result of the differing number of stakeholder events that took place in each MPA (range: 2-9 events), the number of stakeholders engaged during the process (range: 17-70 stakeholders), the extend of working relations with stakeholders (in some MPAs long-standing working relations with stakeholders were in place), the number of comments received and processed during the decision-making process.

It should be highlighted that the relatively low total cost of implementation for the Zakynthos MPA is explained by the fact that the MPA had already a well-established stakeholder engagement plan and long-standing working relations with the stakeholders involved, therefore requiring less effort and cost allocation for their participation in the process. In addition, the Zakynthos MPA has a rather low man-day rate (80€) that resulted in a rather low total cost. Most of the partners MPAs (4 out of 7 MPAs) carried out the related actions in collaboration with an external contractor in order to alleviate somewhat the workload of the MPA staff. Consequently, these MPAs display the highest total cost devoted to the implementation of the participatory planning process and the elaboration of the climate change adaptation plan (see figure below).

Due to the COVID-19 prevailing conditions almost all stakeholder events were held online resulting in reduced overall costs, since there were no travel and accommodation, catering and other events related costs involved. Lastly, almost all MPAs reported zero costs for the stakeholder events either because such costs are already embedded in the day-to-day operational costs of the MPAs or because they have been included in the costs of the external contractor.

**Overall, we can state** that the implementation of the quintuple helix participatory process and the elaboration of a climate change adaptation plan have a rather moderate cost, depending of course on the circumstances of the MPA. In particular the relationship and frequency of communication that each MPA has with local stakeholders will influence the time required and the budget devoted for their engagement in the participatory process.



### 5.2 The showcase of Brijuni **National Park (Croatia)**

The overall MPA Engage participatory process in the Brijuni National Park run relatively smoothly and effectively, despite the delays encountered. Since June 2020, the staff members of the Brijuni National Park have been collecting data on sea habitats, species, users and stakeholders for the climate change vulnerability assessment. Within that framework they have successfully approached and interacted with a large number of different stakeholder groups (divers, fishermen, boaters, tourist guides, etc.) paving the way for the quintuple helix participatory approach actions. Challenges were faced with certain stakeholder groups that showed distrust in the initial phases of the participatory process. This was the case for recreational fishermen (only recreational fishing is allowed in the Park's waters), who are among the most important and mostly affected users by the climate change of the Park. Continuous efforts have been made to establish good working relations with them and an environment of trust, but these efforts have been deemed insufficient. The same applied for stakeholders from the nautical sector. To that end, accelerated communication, awareness raising and educational activities were identified as the way forward.





Figure 5-2. Photos taken during the public participation related activities.

Two major stakeholders meetings were organized: (i) the first meeting targeted the heads of all departments and sub-departments of the Park (the Park has a relatively complex administrative structure), and aimed at discussing the different climate change adaptation measures and their potential incorporation into the overall Management Plan of the Brijuni National Park, currently under revision; (ii) the second meeting targeted national and local authorities, businesses, divers and recreational fishermen, who discussed the different climate change adaptation options and their potential involvement in their implementation.

The overall experience of the quintuple helix participatory approach in Brijuni National Park was positive; it offered stakeholders a sense of ownership of the decision-making process and built a strong base for the process within the community. Stakeholders had the opportunity to express their views and in particular their concerns, considering the fact that the National Park has a lot of restrictions in place and cooperation actions with the stakeholders are something relatively recent. Even if the engagement of a large number of stakeholders in the participatory process was not always possible, this was countered by engaging with representatives of stakeholder groups. The general

feeling was that the MPA Engage participatory process was a valuable tool to reinforce the trust within the local communities.

All stakeholders involved were well-disposed, willing to work and willing to help. No major conflicts occurred; only in few cases there were some disagreements related to economic benefits vs nature protection benefits that were effectively addressed by the external experts via a conflict resolution process.

Overall, all the steps and elements of the MPA Engage participatory approach were useful -some more useful than others- however for some elements it was decided that more preparatory work within the Park is required in order to build more trustful relations with the different stakeholders. Within this context, more time is needed as well as more knowledge and skills in order to avoid any complications.



Figure 5-3. The anthozoan Parazonathus axinellae colonies on rocks in Brijuni National Park (Photo © P. Kruzic).

Based on the overall experience of the MPA Engage participatory process, the following lessons learned were identified by the managers of the Park:

- Adequate amount of time is needed in order to implement a full-blown participatory process, allowing for each step of the process to unfold smoothly and effectively.
- A participatory decision-making process takes patience and commitment on everyone's part. Everyone has to maintain the commitment over time, remain civil while discussing issues that may induce strong feelings, and be willing to compromise; to that end outsourcing to external consultants the organization of the process might prove helpful. However, it should be noted that finding individuals that are appropriately skilled in participatory approaches and are familiar with the Brijuni and the climate change context was very challenging.
- During a participatory process there can be different levels of involvement of the participants, ranging from informing them, to consulting them, to involving them and to collaborating them. The final step related to empowering them, the step that places the final decisionmaking in their hands is step that requires a very high level of trust and very strong working relations.
- **Deciding** who should be involved in a participatory process is very important and deserves its own chapter. Knowing the people, you have on board, enables you to better address the problems but also prevent the conflicts in advance. The approach of the Brijuni National Park when it comes to that, was to sometimes point out some potential conflicts in advance and address them before they become an issue.
- Education and awareness raising activities are catalytical when engaging with stakeholders; they keep them informed of and make them part of the process from the very beginning, ensuring their collaboration and commitment. Long-standing collaboration with the stakeholders is crucial for their trust which closely correlates to the amount and the quality of their inputs.



**Figure 5-4.** Brijuni National Park (Photo © D. Bartolić).

### 5.3 The showcase of Portofino MPA (Italy)

The MPA Engage participatory process in the MPA of Portofinoeffectivelyledtotheagreementofaclimatechange adaptation and mitigation plan, however the overall success of the participatory process was considered partial, as the initial targets regarding the involvement of wide-ranging stakeholder groups were not met. Due to several factors including internal administrative problems at MPA level but also external issues related to COVID-19 restrictions, the main stakeholders engaged effectively in the participatory process were mainly divers, recreational and professional fishermen, boaters and MPA staff members; other stakeholders were involved to a lesser extent. Nevertheless. despite this shortcoming, the shortlisted climate change adaptation measures were included in the new version of the Implementing Regulations of the MPA, currently undergoing a review by the Ministry for Environment, Land and Sea Protection of Italy.

The participatory process entailed a large number of actions including the organization of nine meetings such as webinars, conferences, workshops, roundtables and briefings, where the different stakeholders were informed about the findings of the vulnerability assessment and the monitoring activities and were invited to identify and shortlist climate change adaptation and mitigation measures. Instrumental to gauging the views and perceptions of the stakeholders on the different climate change related measures, was a comprehensive questionnaire. The questionnaire provided a list of measures, addressing various socioeconomic activities and habitats, and stakeholders were requested to rate the measures on a scale of 1 to 5; where 1 represents measures of no effectiveness and 5 represents essential measures. Interestingly, the proposed measures were welcomed by all participants, even if in some cases this was more from a theoretical rather than an operational point of view; participants on many occasions provided suggestions, impressions and recommendations to achieve compromises and make those measures that introduce restrictions more "acceptable".

One of the main problems encountered during the implementation of the participatory process was related to the delivery date of the vulnerability assessment report and the monitoring activities report. Both reports were finalized quite late within the timeline of the participatory process and consequently this delay impacted the smooth unfolding of the related activities. The latter had to be postponed to the summer period, a period where most socio-economic actors are either fully engaged in their businesses or are on summer leave. In turn, this also may have contributed to non-homogenous levels of interest of the stakeholders and different levels of engagement throughout the participation process, which was overall characterized as rather medium. A large number of divers were engaged successfully in the participatory process, exhibiting high levels of interest, while fishermen and boaters were engaged to a lesser extent.

The difficulty in reaching some of the stakeholder groups was buffered by interfacing with representatives of those groups, such as cooperatives' presidents or elected spokespersons. The representatives of these groups were people already involved in the activities of the MPA and dialogue and collaboration with them takes place on a regular basis. These representatives came mainly from the business sector; thus, their participation ensured that a compromise between environmental protection and the protection of socio-economic activities was found, within the process of elaborating the climate change adaptation plan. The participatory process ran relatively smoothly but conflicts and disagreements occurred over proposed restrictive measures to be included in the climate change adaptation plan. This was particularly the case for the fishermen, both professional and recreational, as well as for recreational boaters, who see restrictions as a threat to their activities, and therefore were hesitant to support the proposed actions, even though they understood their necessity from an environmental point of view. Instead, they opted to focus on measures regulating the activities of other stakeholder groups. Divers, on the other hand, were more willing to find compromises (i.e. limiting the maximum number of divers, introducing new routes, temporary closure of sites) assuming that action is taken to significantly reduce the impacts of the fishing activities. In order to address these conflicts, it was necessary to propose alternatives (e.g. mooring camps to reduce the impacts of anchoring) and make it clear to all that restrictions will bring benefits (in the medium to long term) to all stakeholder groups.

**Based on the overall** experience of the MPA Engage participatory process, the following lessons learned were identified by the managers of the Park:

- The process of stakeholder engagement is slow and depends very much on the initial levels of trust; if the initial trust levels are very low then the overall participatory process is likely to be slower and more difficult than planned. This fact is well-testified by the experience of Portofino MPA, where the participatory process with the divers -a stakeholder group with good working relations with the MPA- was rather easy and efficient, while with the other stakeholder groups, which are less involved in the MPA, it was more difficult or even impossible to carry out the process in a complete or extensive way.
- Stakeholder groups' representatives can act as a conduit to reach out to their colleagues and obtain their support in the future. Obviously, the stakeholder groups' representatives do not always reflect the opinion of all stakeholders but their involvement can ensure

that the measures taken do not damage the different socio-economic activities, and therefore ensure that a compromise between economy and environment is found.

- Key to success in a participatory process is to provide a solid scientific basis, evidence and studies that present easily understandable and irrefutable findings. These findings need to be communicated as objectively as possible, without pointing fingers or accusing anyone, with the ultimate goal of engaging in constructive dialogue and finding a compromise solution.
- It is possible to gather around a roundtable all stakeholder groups and have them work constructively; however, at the same time uniting in the discussion different groups (often in conflict with each other) can be detrimental to the success of the participatory process. Therefore, a tailored-made approach should be deployed taking into consideration the stakeholder group specificities at local level.

The showcase of the Portofino MPA illustrates the contextdriven nature of a participatory process, which is affected by the local dynamics, the availability of resources, the local political situation, the interest of stakeholders, etc. Below are listed some recommendations made by the managers of the MPA:

- Capacity building and training activities targeting the different stakeholders can prove beneficial in building an atmosphere of trust and in familiarizing them with the issue at stake.
- Organizing initial briefing meetings with each stakeholder group separately (i.e. fishermen and divers) might lead to less conflicts later, instead of addressing all stakeholder groups together at the same time from the very beginning. At a next step, a task force for each stakeholder group can be created, including members that are able to engage in constructive dialogue with task force members of other stakeholder groups.

Figure 5-5. A colony of the Cladocora caespitosa surrounded by the non-invasive algal species Caulerpa cylindracea inPortofino MPA (Photo © L. Merotto).

### 5.4 The showcase of Calanques National Park (France)

The MPA Engage participatory process in the Calanques National Park has encountered some delays, but has also advanced enough to have identified climate change adaptation and mitigation measures of relevance, to be prioritised and agreed upon by consensus in the first months of 2022. The actions proposed by the MPA Engage project had to be slightly adapted to better take into account the social context of the Calanques National Park and the realistic time constraints.

**Some 300 stakeholders** were mapped in order to better understand quintuple stakeholder motivations and how to engage with them. Meanwhile, key stakeholders are already represented in the governance bodies of the Calanques National Park. So, a first briefing meeting was done in March 2021 to the Scientific Council of the National Park and a second one in November 2021 to the Economic, Social and Cultural Council, while a day of exchanges with a wider group of stakeholders took place during a meeting on "coastal biodiversity and small Mediterranean islands facing climate change" in between the two meetings, in September 2021.

Figure 5-6. Coralligenous habitat in Calanques National Park (Photo © F. Launette).



A dedicated webpage was developed in order to facilitate the participatory process. News have already been shared via the site and progress of the process is planned to continue to be communicated regularly in 2022. Similarly, even if later than planned, press releases and social media channels have been used to disseminate information and progress achieved in the steps towards formulating the climate change adaptation and mitigation measures.

Working groups of the MPA and the governance bodies of the Calanques National Park will be confirming the climate changeadaptation measuresprioritization in early 2022, while a final internal meeting to discuss its final shape and form is planned for May 2022. To widely share the agreed contents of the climate change adaptation and mitigation plan with the wider stakeholders mapped is planned for June 2022. In advance of this meeting, an on-line survey with the list of adaptation measures will be widely circulated for feedback. Finally, in July 2022 the final meeting or webinar that will consist of the validation by the Administration Council of the Calanques National Plan (ultimate governance body) of the climate change adaptation plan inclusive of the list of priority measures agreed upon by the stakeholders and other governance bodies, will ideally take place in July 2022.

**Several difficulties** have been encountered by the National Park,thataccountforthedelayandalsoforthelowstakeholder interest to date. There is during the past 2 years (2020-2021) a 'fatigue' of the stakeholders as six other management plans have been in their final phase of validation and initial stage of implementation. All of these plans tackle challenges that are urgent, more tangible, with immediate impacts easily understood by the stakeholders when compared to climate change adaptation and mitigation, which is viewed as something of less urgent for the specific area. There was also little room for integration of, or complementarity with the MPA Engage participatory process. The level of interest of the stakeholders was therefore not anticipated to be high.

The time frame proposed by the MPA Engage project

for a full-scale participatory process was too tight and not possible for the Calangues National Park to follow. It was also difficult to, in parallel, run other project activities (vulnerability assessment, citizen science actions, etc.). The six-month extension was a relief but not enough. Moreover, administrative realities, such as the rules and procedures of the governance bodies of the Calangues National Park (involving several stakeholders) have to also be considered, as they do not allow flexibility in planning, no matter how committed the Park' staff may be.

For a large MPA like the Calanques National Park situated very close to the second largest city of France, the number of stakeholders mapped was expected to be high, but it was also a major challenge. Planning, organisation and implementation of the participatory process is complicated, resource intensive (human and financial) and takes time, if it is to be properly implemented. Given the time constraint, representatives of the quintuple helix groups with a theoretical interest in engaging in the climate change adaptation plan participatory process, were targeted.

Key recommendations of the Park for improving future participatory approaches are:

- Provisions should be made for developing a full communication campaign with attractive awarenessraising activities throughout the whole participatory process to maintain continued interaction with the stakeholders and to maximize engagement.
- Outsourcing the participatory approach should be considered in order to alleviate somewhat the workload of the MPA staff on the one hand and to ensure that it is an objective and impartial process on the other.
- Ample time should be planned, accounting for all factors specific to each MPA, in order to ensure that the steps of the process unfold smoothly, allowing for interest and trust to evolve.
- It is very important to be inclusive, open-minded, persistent and adaptable when working with the stakeholders in a participatory approach.





Zakynthos MPA (Photo © Zakynthos MPA).

## 5.5 The showcase of the Zakynthos MPA (Greece)

The MPA Engage participatory process in the Zakynthos MPA was an overall successful one. Mechanisms for participatory decision making have long been established in the MPA, which facilitated greatly the smooth and effective implementation of the process, despite the time limitations and global pandemic. The objectives and concepts of the MPA Engage project (i.e. monitor in a harmonized way the climate change impacts, elaborate vulnerability assessments and develop climate change adaptation action plans) where in effect channelled into the existing MPA mechanism of participatory decision-making.

A major added value of this activity was that regional decision-makers were engaged and as a result, there is a high likelihood that this experience (mitigating climate change impacts through participatory decision- making) will be replicated to other MPAs of the Ionian Sea and the region of Western Greece.

Of the main difficulties that were encountered, the one that required considerable effort and time investment by the MPA staff, was communicating to the targeted stakeholders and convincing them of the validity of the potential impacts of climate change. There is low awareness and understanding of the vulnerability of the MPA and the island of Zakynthos to climate change, so making the vulnerability assessment concepts and results accepted was quite demanding. However, unlike the timeline of MPA Engage (a sprint) the process is a long-term one (a marathon).

Due to prior experience, it was no surprise that longstanding conflicting interests that exist among different stakeholder groups (e.g. nautical sector vs diving sector) were prevalent and the MPA focused on cultivating a spirit of good-faith and willingness to compromise so as to establish a common ground and reach a consensus, where everyone involved felt that they have gained from the agreement.

**Based on the experience** of the MPA Engage participatory process, some lessons learned and recommendations of the Zakynthos MPA are:

- · Such a participatory approach, focusing on a nonfamiliar concept to the targeted stakeholders, which is also contested by many of them, requires caution, flexibility and a long-term effort by the MPA, well beyond the time frame of this project.
- Consistency and full transparency are key for a successful outcome in the long run.
- MPAs should be well aware that climate change impacts derive from factors that are well beyond their jurisdiction and thus adaptation and mitigation plans should be constantly adapted through on-going, longterm evaluation and modification processes.



**Figure 5-9.** The sponge Aplysina aerophoboa in Zakynthos MPA (Photo © Zakynthos MPA).

### 5.6 The showcase of the Cap de Creus MPA (Spain)

The MPA Engage participatory process in the Natural Park of Cap de Creus ran smoothly and led successfully to the adoption of a climate change adaptation and mitigation plan. Stakeholders were strongly engaged in the process that consisted of a set of five well-planned meetings, including a briefing and information exchange webinar, two public meetings, a consensus building event to shortlist measures and a final webinar to share the contents of the climate change adaptation and mitigation plan and discuss its final shape and form. In addition, a dedicated web-portal was put in place in order to facilitate the participatory process by sharing related info and by providing a space for stakeholders to propose climate change adaptation and mitigation measures. The level of interest of the stakeholders was very high and this is evidently demonstrated by the large number of comments and inputs submitted throughout the participation process addressing different issues such as the vulnerability assessment and the monitoring results, the list of climate change adaptation options, the final plan, etc.

Figure 5-10. Posidonia oceanica meadows in the Natural Park of Cap de Creus (Photo © Cap de Creus NP).



It should be noted that the MPA Engage participatory process and the related elaboration of the climate change adaptation plan, coincided in terms of timing with the participatory process for the elaboration of the Master Plan for the Use and Management of the Natural Park. On the one hand, this brought positive results as it enabled a strong complementarity of the measures included in the climate change adaptation plan and the measures included in the aforementioned Master Plan. However, one of the major drawbacks was that in some cases the participants had to choose which process and which related meetings to attend as the stakeholders are the same for both processes. In order to address this issue, a strong coordination was sought among and between the Park's managers, the Park's Co-Management Board and the Park's collegiate bodies.

**One of the major** shortcomings of the overall participatory process was related to its rather limited duration due the MPA Engage project timing constraints. If there was more time, it would have been possible to engage a large number of stakeholders and therefore implement more inclusive deliberations. Nevertheless, the final plan was elaborated via consensus, incorporating a large number of viewpoints and inputs. The climate change adaptation measures did not cause major confrontations and conflicts but there were some disagreements related to the protocols needed to implement some of the measures. In principle, all parties involved were willing to explore the common ground of understanding.

**Three key** recommendations for improving future participatory approaches were proposed by the managers of the Park. The first one has to do with the timeframe of the overall process; more time is needed in order to ensure that the different activities unfold smoothly and timely. The second one has to do with devoting more time and effort in building and substantiating the climate change case so that all stakeholders can be on the same page regarding the issue at stake and its implications for the marine environment. The third recommendation focuses on the need for internal coordination actions in relation to sectoral planning in order to achieve maximum synergies when it comes to the issue of adaptation to climate change (understood as a crosscutting component).

Based on the overall experience of the MPA Engage participatory process the following lessons learned were identified by the managers of the Park:

- It is extremely important to be inclusive and promote open dialogue and the exchange of contrasting arguments.
- Building equity for all stakeholders engaged in the participatory process and ensuring equal access to share ideas via the use of relevant tools and approaches is very crucial, so that all interested parties and especially those who may have difficulty in expressing their opinions, can transmit them during the participatory process.
- The information and the results generated throughout

the participatory process should be collected and be shared with all stakeholders.

- It should be ensured that all stakeholders engaged in the participatory process are fully aware -since the very beginning of the process- of the role and scope of their participation, of how their contributions will be processed and used, of the rules in place for the entire process.
- Flexibility in deploying an adaptive management approach when it comes to the overall participatory process and take into consideration emerging events and opportunities is key.
- Participation relies on an environment of trust in which people share their skills, knowledge, ideas and resources to reach and act on shared decisions. Therefore, the team that will act as facilitator of the participatory process must create such an environment.



# 5.7 The showcase of the Litoral del Baix Empordà MPA (Spain)

The MPA Engage participatory process in the Litoral del Baix Empordà MPA resulted in the successful agreement of a climate change adaptation and mitigation plan consisting of 25 measures. The participatory process was planned and implemented by the same team as the one of the Natural Park of Cap de Creus, therefore the process followed, entailed the same series of actions: five well-planned meetings, including a briefing and information exchange webinar, two public meetings, a consensus building event to shortlist measures, and a final webinar to share the contents and discuss the finalization of the climate change adaptation and mitigation plan, as well as the setting up of a dedicated web-portal. To make certain that the participatory activities implemented by Litoral del Baix Empordà MPA and the Natural Park of Cap de Creus do not hinder each other in terms of timing and attendance, apart from the introductory to the MPA Engage briefing webinar of mutual interest for the stakeholders of both MPAs, the rest of the implemented actions were organised on different dates.

The success of the participatory process was manifested by the high level of stakeholder engagement and interest throughout the process which led to the co-development of 18 climate change adaptation and mitigation measures as a result of the organised meetings and the proposal of 7 measures on the dedicated web-portal for the stakeholders to generate their input. The final plan was a result of consensus, inclusivity and a large number of viewpoints and inputs discussed. The climate change adaptation measures did not cause major confrontations and conflicts but there were some disagreements related to the protocols needed to implement some of the measures. In principle, all parties involved were willing to explore a common ground of understanding. Two of the drawbacks of the overall participatory process were linked to temporary restrictions. The first one was related to its rather limited duration due to the MPA Engage project timing constraints, which did not allow for the engagement of a large number of stakeholders and therefore more inclusive deliberations. Secondly, the MPA Engage participatory process and the related elaboration of the climate change adaptation and mitigation plan was carried out in parallel with other participatory activities of the Litoral Baix Empordà Maritime Co-Management Board. Although, such concurrence may have reduced the expected stakeholder attendance as many of them were involved in the coinciding activities, the diverse types of stakeholders engaged and/or scope of their work, secured the satisfactory participation and continuity of the process. Moreover, the accomplished coordination for the active participation of the Secretary of the Litoral Baix Empordà Maritime Co-Management Board in the entire process was ensured for the planning process of the local climate change mitigation and adaptation plans.

It is worth mentioning that one of the most important arguments raised by the participating stakeholders in the process was that the Litoral del Baix Empordà MPA is lacking a dedicated body for the management and planning of the protected area. Therefore, the executive capacity to participate in the elaboration of the local climate change mitigation and adaptation plan is limited. What is more, the administration of the area, as a member of the Co-Management Board, expressed throughout the process its commitment to promote and streamline the adopted measures along with the existing Action Plan of the MPA. As an overall outcome, active commitment and engagement from the administration is key to the success and long-term sustainability of the process, as is collaborative work among the respective stakeholders.

The main recommendations for improving future participatory approaches proposed by the managers of the MPA correspond to those of the Natural Park of Cap de Creus, as the main lessons learned and difficulties encountered were the same. The first one has to do with the timeframe of the overall process; more time is needed in order to ensure that the different activities unfold smoothly and timely. The second one has to do with devoting more time and effort in building and substantiating the climate change case so that all stakeholders can be on the same page regarding the issue at stake and its implications on the marine environment. The third recommendation focuses on the need for internal coordination actions in relation to sectoral planning in order to achieve maximum synergies when it comes to the issue of adaptation to climate change (understood as a crosscutting component).



**Figure 5-11.** The gorgonian Paramunicea clavata at the Litoral del Baix Empordà MPA (Photo © Litoral del Baix Empordà MPA).



## 5.8 The showcase of Tavolara MPA (Italy)

The development of the participatory approach in the MPA of Tavolara was successful for the elaboration of a climate change adaptation and mitigation plan. Although the process is ongoing, the implemented actions and steps taken so far were proven effective in accomplishing a better understanding of the issue by generating a knowledge base of local perceptions and building the community's confidence and capacity to support the project's overall and specific objectives. The process consisted of various meetings where stakeholders were invited to share local information, experiences and data, through brainstorming sessions. The bottom-up approach of the process allowed for the initiation of an open dialogue among the stakeholders, in order to strengthen the participant's capacity to become familiar with the situation, identify priority needs in a creative way and eventually plan actions by orienting their own development.

**One of the main challenges** encountered during the establishment of the participatory process was in regards to the analysis and scenarios of short-term and long-term impacts and vulnerabilities due to climate change. The planning discussions brought to light the various interpretations that the engaged stakeholders gave to climate change adaptation. The complexity and multidisciplinarity of the climate change issue created difficulties for the participants to not only identify their own role in the process, but also discouraged their involvement in the discussions for the identification of the key issues for the plan.

To maintain the level of interest and engagement of the participants throughout the process, the following considerations were proven to be effective: (i) early engagement of the various stakeholder groups, (ii) use of visual tools (e.g. video presentations) to break down complex issues in an informative, but non-exhaustive way, and (iii) the coordinating role of the facilitating team of the process, as well as the formation and hierarchy of the established roles. In regards to the latter, facilitators of the MPA provided good framing of the issue along the process and created the enabling environment for the stakeholders to learn from each other and based on this, enhance the value of the process and the overall aim to elaborate a climate change mitigation and adaptation plan. Involvement of a broader range of people to the planning process, may have enabled a more constructive dialogue on: what adapting and mitigating to climate change really means; what it entails; and how it is perceived by each stakeholder group and consequently avoid omitting aspects of the local context.

During the involvement process, the stakeholders provided

elaborated advice and input for the local, on the ground, implementation of a climate change mitigation and adaptation plan, in an effort to find pragmatic and good solutions to decision-making. Some of the issues raised and challenges in the process were connected to the intrinsic management of the MPA governance, such as political will of the administration of three municipalities which form the MPA management consortium and budgetary constraints, which fall outside of the scope of the MPA Engage project and the common vision. On the other hand, the stakeholder contribution, in terms of the technical and regulatory elements for the implementation of the plan, were essential to identify the prevailing condition of the MPA and the degree of a common understanding of the decisions to be made.

**Overall,** for the MPA of Tavolara the following lessons learned were obtained during the MPA Engage participatory process:

- Bottom-up participatory decision-making process serves as a foundation to connect different actors and enhanced the capacities of the stakeholders towards meaningful future community action by taking ownership of the issue at hand.
- **Providing ample** and clear informing throughout the participatory process is essential to develop the potential of stakeholders to catalyse action for climate change based on the local context.
- Selecting the appropriate participation tools and methods, given the circumstances, is essential to productively inform all key actors by analysing the knowledge base and avoiding misunderstandings, while increasing the level of participation to lead to their effective engagement in the decision-making process.

The context-driven nature of participatory processes underlines that there is no best or single approach to address complex issues such as climate change. Since there is no single approach to climate change adaptation and mitigation, having multiple perspectives is essential for defining different desirable futures.



**6. SETTING UP A QUINTUPLE HELIX PARTICIPATORY APPROACH IN MEDITERRANEAN MPAS: ESSENTIAL ELEMENTS FOR SUCCESS** 

Participatory processes for environmental planning and decisionmaking involve wide-ranging stakeholders with competing agendas and vested interests.

Participatory processes for environmental planning and decision-makingtypicallylieatthescience-policy-society interface. They involve wide-ranging stakeholders with competing agendas and vested interests in the ultimate decision-making. In order to ensure transparent, appropriate and effective decision-making it is essential to build consensus towards reaching agreement. By definition, in consensus, no decision is made against the will of an individual or a minority. If significant concerns remain unresolved, a proposal can be blocked and prevented from going ahead. This means that the whole group has to work hard to find win-win solutions that address everyone's needs.

Capitalizing on the experiences and lessons learned of the project's pilot MPAs, which tested the MPA Engage quintuple helix participatory approach, we have identified and/or reinforced the following essential elements for success towards achieving stakeholder consensus throughout the five-phase planning process and resolving any conflicts:

### Setting up an interdisciplinary team

In order to ensure that a variety of viewpoints are considered from the very beginning and throughout the participatory decision-making process, the team tasked to elaborate the climate change adaptation and mitigation plan should be interdisciplinary and include scientific experts as well as relevant policy and socio-economic experts.

### Engaging stakeholders early

Early engagement of the stakeholders is critical to any participatory decision-making process in order to build trust and ensure transparency, commitment and ownership of the process.

### Defining roles and contributions

It's essential to set up a clear participatory decision-making processwhereallstakeholdershaveacommonunderstanding of how it works. Ensuring all stakeholders are aware of the planning process, what each implementation phase entails and how they are expected to contribute, is key.

### Ensuring good framing of the issue(s) at stake

Good framing of the issue(s) at stake on the basis of a consolidation of the various scientific views, integrating multi-disciplinary perspectives, is key towards providing an undisputed, solid knowledge basis to feed into the participatory decision-making process.

### Working towards consensus

All stakeholders need to share a clear common goal and be willing to work together towards it. Within the scope of a participatory planning process, focus should be placed on obtaining agreement when it comes to defining the purpose

and the scope of the local climate change mitigation and adaptation plan. Initially, instead of identifying the elements that should be included in the common vision, it should be sought to identify and obtain consensus on those elements that should not be included in the common vision.

# Creating a respectful and trusting atmosphere

Helping to create a respectful and trusting atmosphere is of paramount importance. Making space for everyone to express their ideas and opinions, and remembering that stakeholders have different needs, values and ways of communicating, is a must. Stakeholders are knowledge agents themselves and treating them as such not only fosters trust but also leads to more creative and dynamic solution identification and problem-solving approaches. It must also be ensured that marginalised groups are engaged in the process and participation is facilitated for those who may be facing difficulties in doing so.

### **Exploring differences**

Some people shy away from conflict situations, others get into arguments to prove they're right. The key to finding win-win solutions is to understand all the different needs and perspectives before forming a proposal. Once a good understanding of what is important to the different stakeholders is obtained, then all the ideas for moving forward should be collected and explored. Looking at the pros and cons of different ideas helps the stakeholder group with really understanding everyone's key needs and concerns.

# Taking a pragmatic approach to decision-making

Finding a balance between ambition and realism is of utmost importance. Effort should be streamlined towards overcoming obstacles and bottlenecks while remaining within the sphere of "doable".

### Confirming agreement

It should be ensured that agreement has been achieved by clearly stating the final proposal and asking people to signal whether they agree or disagree. This stage is important to check if there are concerns that haven't been heard. If consensus has not been reached, then it is considered essential to go back to an appropriate earlier stage in the process.

### Being open and flexible

Being responsive, consistent and timely in communications is imperative. Communicating well in advance, documenting the engagement rationale and process, and allowing for stakeholder feedback will yield the desirable consensus. Being open to the ideas and opinions of others is often the most difficult aspect of participatory processes; but it is one of the most integral factors of success.

### Ensuring good facilitation

Good facilitation is key to an empowering participatory process. Effective and objective facilitation requires a significant shift in attitude; facilitators must be characterized by a learning attitude and must be focused on the process of group dynamics, rather than the task or outcome. This is to ensure that participation is 'active' rather than 'passive'.

### Allocating enough resources and time

One of the common problems related to participatory processes is that they are costly and time-consuming. However, when considering the returns in terms of sustainability and effectiveness, they are highly costeffective.



Overview of the essential factors of success of a participatory process.



## **7. CONCLUDING REMARKS**

Participation means many things to many people. It carries potential benefits, but only if all those involved have a common understanding and set of expectations. Plans, methods, tools and techniques do not guarantee participation.



The showcases of the MPA Engage quintuple helix participatory process illustrate that public participation is a context-driven process, where the full understanding of the political, cultural and institutional context at local, national, regional and global level is needed. The experiences described in this document highlight some of the various challenges posed by the complex and multidimensional local and national contexts in which the participatory process was introduced. Factors affecting the successful outcome of the participatory process were identified at different levels such as at individual, community, organizational, political, economic, etc., levels. It should be highlighted that these factors are intertwined and affect each other in very complex ways.

All pilot MPAs that operationalized the MPA Engage participatory process plan reported that the overall process was comprehensive, well-articulated and educative, concretely enabling them to put together the different components of the MPA Engage pilot actions, namely the monitoring results, the vulnerability assessments, the citizen science actions, and the actions to elaborate climate change adaptation and mitigation plans. In spite of the challenges that had to be dealt with, the experience strengthened the capacities of all those involved in the participatory processes, generated commitment to promote MPAs as naturedbased solutions to tackle climate change, established and/ or strengthened alliances among key stakeholders, and emphasized the potential of the participatory process as a powerful tool to generate constructive discussion among communities related to climate change. The MPA Engage showcases demonstrate that supporting the implementation of participatory processes can successfully lead to effective decision-making for climate change adaptation and mitigation in Mediterranean MPAs.



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# Act local, think **Mediterranean!**

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