SUSTAINABLE FINANCING OF MARINE PROTECTED AREAS IN THE MEDITERRANEAN: A FINANCIAL ANALYSIS

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A study led by:

MedPAN UNEP MAP RAC/SPA WWF

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ACRONYMS

ACCOBAMS	Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area
CBD	Convention on Biological Diversity
CDDA	Common Database on Designated Areas (European protected-area database)
CdL	*Conservatoire du Littoral* (French coastal protection agency)
CIESM	Mediterranean Science Commission
COP	Conference of the Parties
EC	European Commission
EEZ	Exclusive Economic Zone
EU	European Union
FAO	United Nations Food and Agriculture Organisation
FFEM	French Global Environment Facility
GDP	Gross Domestic Product
GEF	Global Environment Fund
IUCN	International Union for the Conservation of Nature
MedPAN	Network of Mediterranean Marine Protected Area managers
MAP	Mediterranean Action Plan
MPA	Marine Protected Area
AAMP	French Marine Protected Areas Agency
NA	No answer in the questionnaire
NC	Not collected during the survey
NGO	Non-Governmental Organisation
ODA	Official Development Assistance
PA	Protected Area
PPP	Purchasing Power Parity
PES	Payment for Ecosystem Services
RAC/SPA	Regional Activity Centre for Specially Protected Areas
R&D	Research and Development
SPA/BD	Special Protected Areas and Biological Diversity
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WCPA	World Commission on Protected Areas
WDPA	World Database on Protected Areas
WWF	World Wide Fund for Nature

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1 EXECUTIVE SUMMARY

This report presents the first assessment of financing needs and gaps both for effective management of Mediterranean Marine Protected Areas (MPAs) and for achievement of the Aichi targets of 10% of the marine area protected in the Mediterranean Sea. The approach developed for this study is also the first of this kind in the region: based on data collection from a representative sample of MPAs and through interviews with national authorities, it has collected and compiled both local data on MPA financing and national data on resource mobilisation for MPAs in 17 countries of the Mediterranean Sea. It reveals the size of the financing gap for effective management of MPAs in the region and attainment of the Aichi target.

1.1 Budget analysis

This study is based on a twofold survey performed at both local and national levels. At the local level, a detailed budget analysis was conducted, assessing the cost structure for a sample of 20 Mediterranean MPAs. The local survey completed by MPA managers provides an evaluation of the current financial situation of MPAs ("Basic scenario") and an estimate of individual MPA financing needs for both "Optimal" and "Ideal" scenarios (see Boxes opposite).

The national survey, completed by official authorities, provides an annual estimate of current resource mobilisation, including financial resources from international cooperation devoted specifically to MPAs.

The **BASIC SCENARIO** is defined as the minimum level of funding required to operate key conservation programs while meeting basic program requirements to sustain ecosystem functions in each MPA (Flores et al., 2008). The current financial situation of MPAs in the sample is a good approximation of the basic scenario.

The **OPTIMAL MANAGEMENT SCENARIO** is defined as the level of funding required for operating all programs to reach and sustain optimal ecosystem functioning in MPAs. The Optimal scenario is a representation of effectiveness within MPAs. Effectiveness shows how far activities implemented during MPA development allow for achieving MPA preservation goals (Hockings et al., 2000).

The **IDEAL MANAGEMENT SCENARIO** is defined as the level of funding required to achieve Aïchi Target 11. The Ideal management is thus the sum of costs for the effective management of existing MPAs (optimal scenario) and the costs for the creation and the effective management of additional MPAs, to reach 10% of the Mediterranean Sea covered by MPAs.

Difference between current available financial resources at the national level and financing needs of MPAs leads to an estimate of the financing gap observed for the "Optimal" and "Ideal" scenarios.

1.2 Main conclusions

Mediterranean MPAs are underfunded, resulting in ineffective management of existing MPAs

The Mediterranean MPAs studied in this survey show an **average level of available finances of €18,500 per km²** per year, human resources being the main expenses.

But Mediterranean MPAs face large underfunding. Official data from 14 countries studied show that total available resources for MPA systems in the region of nearly **€52.8M per year**. This should be compared with the financial resources for effective management of existing MPAs. **In the framework of the Optimal management scenario**, estimates for such needs for existing MPAs at national level show a total **financing gap of €700M per year (investment costs included).**

As a result, there is an urgent need to consider an increase in current funding for existing MPAs in the Mediterranean region, given that **only 8% of the financing needs for effective management of MPAs are covered by current resources**.

Without strong sustained political commitment, Aichi targets will not be met

For the Aichi target of 10% of coastal area protected to be attained, the surface area of MPAs to be created by 2020 in the 12 nautical miles (n.m.) zone has been estimated at around **49,000 km²**[1]. Considering current and projected resources over the period 2015-2020, and the need to effectively manage existing MPAs as well as the ones to be created, **the total financing gap for attainment of the Ideal management scenario is over €7bn until 2020.**

Thus, unless strong political support is mobilised now, the Aichi target will not be met in 2020, and is not likely to be met in the following years.

Though large compared with the budget for MPA financing, this financing gap seems quite small when it is considered that MPAs are a major contributor to international tourism activities in the Mediterranean and that it represents less than **4% of the annual revenues of tourism** in the Mediterranean.

Current levels of MPA underfunding are at risk of worsening

The financial situation for Mediterranean MPAs is actually worsening because the most recent MPAs (so-called **pioneer MPAs**) **present a lower diversity of financial sources and have lower resources in non-EU countries**.

Also, the increasing pressure on MPAs by both anthropogenic and natural causes is likely to increase financing needs to adapt management to those pressures. Importantly, climate change impacts and increased anthropogenic pressures will substantially increase those needs and make the underfunding more pronounced.

In addition, **the global financial crisis and budget restrictions in donor countries affect the availability of financial resources.** This is mainly the case for bilateral Official Development Assistance for Marine Protected Areas which has substantially decreased.

Furthermore, **institutional weaknesses and political instabilities, especially in the South of the Mediterranean, accentuate the financial vulnerability of Marine Protected Areas.** Despite comprehensive institutional organisation, some countries are confronted by a lack of coordination between entities (central agencies responsible for MPAs), which in turn affects the permanent and consistent flow of resources. For other countries, institutional

[1] Gabrié C., Lagabrielle E., Bissery C., Crochelet E., Meola B., Webster C., Claudet J., Chassanite A., Marinesque S., Robert P., Goutx M., Quod C. 2012. The Status of Marine Protected Areas in the Mediterranean Sea. MedPAN & RAC/SPA. Ed: MedPAN Collection. 256 pp.

weaknesses complicate the implementation of strategic alliances with local authorities and stakeholders, which are a necessary condition for effective use of available financial resources. The absence of local key stakeholders for effective management of MPA projects resulted in high dependency on external consultants and NGOs without empowering local stakeholders in the sustainability of MPAs.

The international community is key to developing MPA financing …

There is strong commitment from the international community for investing in MPAs. The region received financial support amounting to **€37M**, **over the period 2010–2014**, channeled through bilateral Official Development Assistance (€7.5M), the GEF (€5.5M) and the EU LIFE programs (€24M).

Financial resources from international cooperation are a useful instrument for raising additional funding from central governments, NGOs, and the private sector. In the Mediterranean region, co-funding from governments amounted to **€36M over the period 2010–2014**. National contributions supplementing international grants demonstrate strong commitment from recipient countries, as they have to be integrated into national accounts.

International financial resources triggered national strategies for a Marine Protected Areas network. International financial flows have triggered national strategies for the creation and enhancement of a Marine Protected Areas network, including the marine Natura 2000 network in the case of EU countries. They have provided financial support for the first stages of development of Marine Protected Areas. However, more effort is needed to consolidate the impetus to upgrade MPAs to the autonomous phase.

… While national support provides essential operational funding

There is a strong variability in financial support from international cooperation for Marine Protected Areas. The financial resources devoted to MPAs are committed on a project basis and within the program cycle of multilateral donors. Once a project is over, the flow of financial resources stops. This situation may be a source of financial vulnerability for countries that are highly dependent on international cooperation for Marine Protected Areas. This is mainly the case for the Southern countries of the Mediterranean region.

National budgets are fairly constant over the study period and essential for the operating activities of Marine Protected Areas. The national expenditures for EU countries devoted to Marine Protected Areas amounted to **€120M** over the period 2012-2014. France, Spain, Italy and Croatia account for the largest share of total national expenditures. For non-EU countries, total national expenditures amounted to **€2,6M** over the period 2012-2014. Financial flows to Protected Areas or MPAs are rather dependent on allocations made within the general budget. The central budget is mainly devoted to the functioning of operating resources whose activities support MPA management programs, mainly allocated for staff salaries. Another part of the central budget is devoted to key activities such as inspections, monitoring, specific scientific studies and zoning, among others. There is no transfer of financial resources to MPA structures, but these allocations are meant to mitigate the financial burden on MPAs.

1.3 Recommendations

Business planning cannot be performed without a management plan. The cost estimate for effective management of an MPA assumes that the MPA has identified the activities

needed for implementation of this level of management. This assumes that the MPA has developed its management plans and defined clear objectives and associated activities to be implemented. Management planning is essential for assessing the financing gap at the local level and is thus a precondition to ensuring the sustainability of the financial strategy.

Financing needs could be partly covered by local mechanisms, including local public support. In addition, innovative financing mechanisms should be developed: entrance and user fees, earmarking of charges collectable under the occupation of public land, etc.

The preference for **project-based international financing may increase the vulnerability of recipient countries** in pursuing the recommendations derived from international financing projects. In the absence of supplemental funding, national budgets have to take over from international funding to maintain the progress achieved, in a context of budget restrictions and financial crisis.

Regional cooperation should be strengthened to achieve more complementary and joint management, optimising the consumption of resources.

Mediterranean countries should undertake studies on their needs for MPA system management. National government budget decision-makers have no clear data on the needs, benefits, and cost-effectiveness of increasing MPA system investment. They should also precisely identify associated activities to ensure that results can be compared across countries and the accuracy of assessment at the Mediterranean level.

Comparison between MPAs in different countries is difficult given the wide diversity of MPA models. **Aggregated values at the regional level should thus be used with caution** and take account of national and MPA characteristics. However, analysis could be deepened at the European level.

Assessment of Mediterranean MPA benefits should be pursued to justify investments. The economic contribution of Marine Protected Areas is still both poorly documented and poorly understood and, therefore, under-valued by decision makers. MPA management is thus viewed as a cost, rather than as an investment.

1.4 Looking ahead

As an initial attempt to quantify the financing gap for ideal management of the MPA network in the Mediterranean, the results presented in this report should be considered as a baseline for further analysis. This study may also serve as background for the **development of regional financing mechanisms** such as trust funds for marine biodiversity conservation, or blue carbon programs.

This evaluation should be backed on the local scale by **sound financial strategy and planning** from managers in order to guarantee that financing gaps may be bridged in the near future.

2 INTRODUCTION

Marine Protected Areas (MPAs) have been designed as a strategic tool for the long-term conservation of the marine environment, including species, habitats, ecosystems and their services, as well as to ensure sustainable management and use of marine resources.

In spite of increasing efforts to strengthen and develop MPAs in the region, the level of success and continuity over time of MPAs depends directly on the size and capacity of their management teams, and their ability to work under appropriate conditions (Watson *et al.*, 2014) and thus indirectly depends on the budget available to support management teams and actions.

Sufficient financial resources are a precondition to ensuring that MPAs are well-managed and play their role in the preservation of biodiversity. However, MPAs remain underfunded, resulting in less efficient protection of species and habitats, as the level of MPA management heavily depends on funding and financial strategies. The insecure financial situation of MPAs sets off a cascade of management problems: funds are necessary to hire staff, manage and monitor the protected area, invest in infrastructure and carry out research on local species and habitats.

Establishing sustainable financing for MPAs is therefore a prerequisite to enable MPAs to attain effective management. It is considered that the problem of underfunding derives directly from a lack of reliable information regarding the costs of MPA management and creation.

This report presents the results of a study aimed at improving knowledge of these costs in Mediterranean MPAs. It highlights resource mobilisation across the Mediterranean devoted to covering overall costs related to the effective management of MPAs in this region. The report provides updates on the available information regarding international and national financial resources per country along with current expenditures and the resources needed for effective management of local MPAs in the Mediterranean region. Finally, comparison of the available financing with costs for individual site management provides an indication of the financing gap for effective management of MPAs in the region, and for attainment of the Aichi target of 10% of the marine area protected by 2020.

The report builds on MedPAN, RAC/SPA and WWF initiatives and generates comprehensive and standardised data that can be further used to make recommendations for strengthening MPA financing. It has been prepared to serve as a tool for improving the financial sustainability of the MPA system in the Mediterranean region.

2.1 Context of the study

KEY POINTS:

Under **Aichi Target 11**, to ensure the resilience and provision of essential services by marine ecosystems, Parties of the Strategic Plan for Biodiversity have pledged to conserve 10 percent of their coastal and marine areas through **effectively and equitably managed ecologically representative and well-connected systems of Protected Areas by 2020**.

The target of 10% protection of Mediterranean waters is **far from being achieved**: the 677 MPAs inventoried in the 2012 Status of Mediterranean MPAs cover a total surface area of almost 114,600 km², which is about **4.56% of the Mediterranean**; and only **1.08% excluding the Pelagos Sanctuary** (87,500 km²).

Within the 12 nautical mile zone, **only 2.5% of Mediterranean territorial waters are protected** through a system of national Protected Areas (if the Pelagos Sanctuary and its contribution of 5.5% are excluded). In 2012, many MPAs in the Mediterranean still faced operational difficulties due to **insufficient budget to finance their operating costs**: among the 677 existing Mediterranean MPAs, it was estimated that several hundred had no budget at all. This lack of financing threatens the performance of MPAs in protecting the marine environment.

2.1.1 International context: the strategic plan for biodiversity 2011-2020 and the Aichi targets

Within the framework of the Convention on Biological Diversity (CBD), member countries drew up a revised and updated strategic plan for 2011-2020 to pursue the goals of biodiversity conservation, sustainable use and equitable benefit sharing. The strategic plan comprises 20 targets, known as the Aichi targets, which cover a whole range of objectives addressing the underlying causes of biodiversity loss, direct and indirect pressures on biodiversity and ecosystems, enhancing good practices for biodiversity conservation and safeguarding ecosystems and their ecological services.

National Biodiversity Strategies and Actions Plans (NBSAP) are the main policy instruments for including biodiversity conservation in national policy and economic sectors in order to maintain and protect the ecological services that are essential for human well-being. Protected Areas are the centerpiece of these national strategies and policies, with a long tradition of activities preserving the most significant ecosystems and species over time. Due to the multiple pressures resulting from development and continuous population growth, Protected Areas have also become a major contributor to social and economic wealth. They require the creation of self-sustaining institutions at the local and regional level.

Aichi Target 11, included in the Strategic Plan for Biodiversity adopted in 2010, states that "*by 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes*."

In order to meet their obligations States must first create a sufficient number of MPAs and subsequently take the necessary conservation measures to ensure the long-term survival of these Protected Areas. In practice, a wide variety of activities are necessary for the *effective* management of national MPA systems. These activities may include field studies and monitoring, development of management plans, habitat restoration, user education, etc.

Despite the significant progress in achieving this, more effort is needed to overcome some of the obstacles encountered by Protected Areas (and MPAs) (UNEP/CBD/COP/12/9/Add1, 2014):

- Further effort in communication strategies and campaigns to increase awareness of biodiversity and its value and of ways to support conservation and sustainable use;
- Further effort in the assessment of the socioeconomic implications of biodiversity loss and in identifying the main drivers motivating behaviour for biodiversity conservation;
- Development of integrated policies to address habitat loss and degradation, covering positive and negative incentives;
- Promotion of stakeholder engagement with the general public, sector groups and indigenous communities; and
- Greater use of innovative fisheries management systems (joint management) that provide fishers and local communities with a greater stake in the long-term health of fish stocks; further effort to reform unsustainable subsidies of fishing practices.

These shortcomings have financial implications for national and regional authorities and MPA managers. However, despite an increase in international financing for biodiversity (and MPA management), the capacity to implement the Convention's targets, in terms of trained staff, financial resources and technical material, is limited in many countries, in particular in the least developed ones. Funding assessments available, for Aichi target implementation, suggest that much greater investment in biodiversity conservation is needed (Convention on Biological Diversity, 2013).

2.1.2 Marine Protected Areas systems in the Mediterranean

While representing less than 1% of world oceans, the Mediterranean is one of the world's biodiversity hotspots: the 21 Mediterranean coastal States count between 4 and 18% of all known marine species and the second highest percentage of endemic species in the world (Mouillot *et al.*, 2011; Coll *et al.*, 2011). The Mediterranean is also one of the maritime areas where human activity is the most intensive. Since the 1960s, heavy fishing pressure, high population density (150 million inhabitants live on the Mediterranean coast and 170 million tourists visit it each year[2]), growing pollution, and future temperature increase have justified the need for protection of species and habitats, through the creation of Marine Protected Areas (MPAs).

In this report, the definition used for an MPA is the latest one provided by the IUCN (Dudley, 2008) and adapted to the marine environment in a study jointly undertaken by MedPAN and RAC/SPA:

"a marine protected area is a clearly defined geographical marine area, - including sub-tidal, inter-tidal and supra-tidal or lagoon/coastal lake area which is continuously or temporarily connected to the sea, together with its overlying water - recognised, dedicated and managed,

[2] http://www.unepmap.org/index.php?module=content2&catid=001003003

through legal or other effective means, to achieve the ***long-term conservation*** *of nature with associated ecosystem services and cultural values" (Claudet et al., 2011).*

Using this definition, the most recent inventory work on Mediterranean MPAs undertaken by MedPAN and RAC/SPA in 2012 identified 677 Marine Protected Areas in the Mediterranean region (Gabrié *et al.*, 2012) - 507 of which are marine Natura 2000 sites. These MPAs cover 114,600 km², which is about 4.56% of the Mediterranean. Excluding the Pelagos Sanctuary (87,500 km^2), MPAs in the Mediterranean cover only 1.1% of the total surface area of the Mediterranean Sea. In 2012, 96% of Mediterranean MPAs were located in the northern basin (84% if Natura 2000 sites are excluded) (Gabrié *et al.*, 2012).

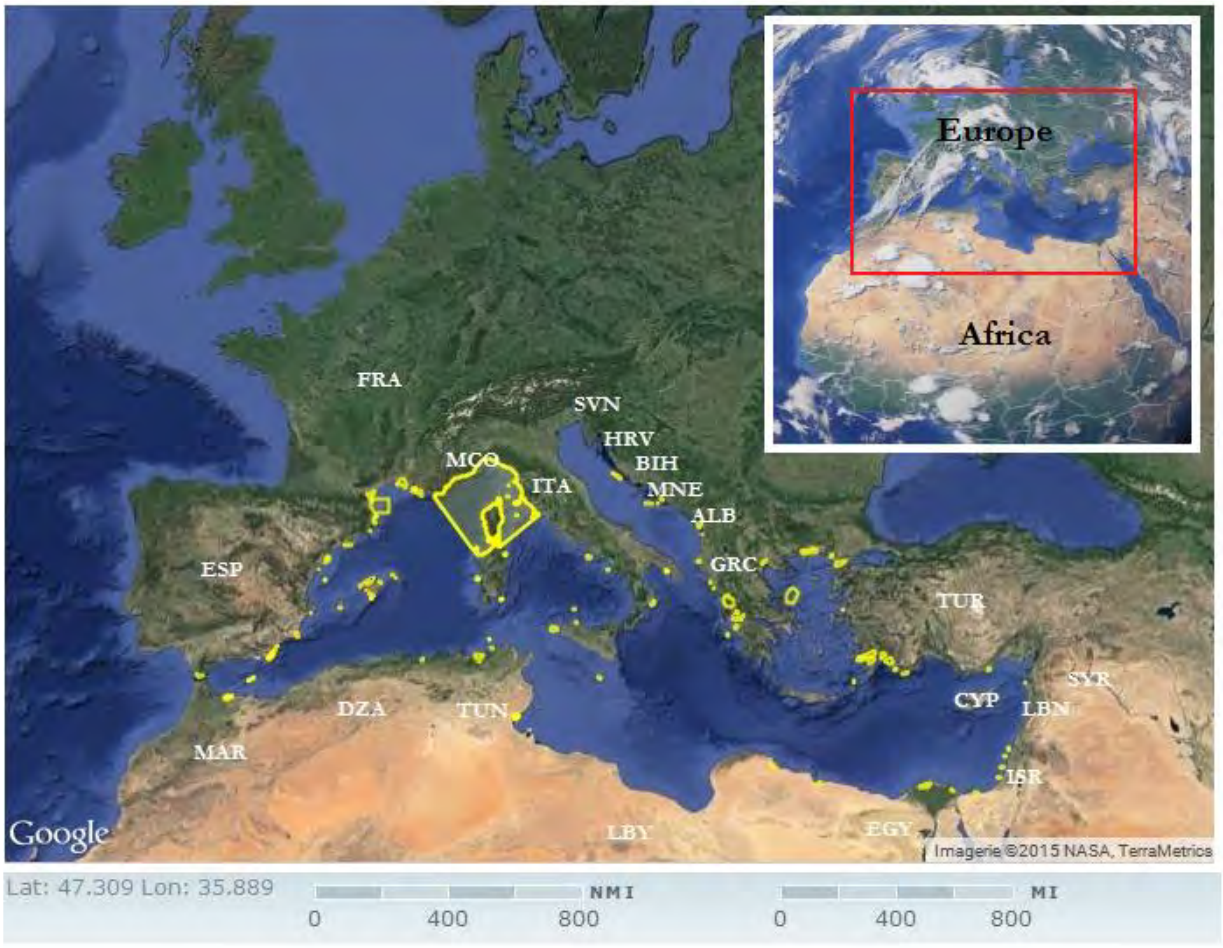


Figure 1: Spatial distribution of Mediterranean MPAs

(Source: mapamed.org)

The 2012 analysis of the geographical distribution of MPAs (using a Spatial Analysis Method) shows that 7.8% of the 12 nautical mile zone is protected in the Mediterranean, with a strong contribution from the Pelagos Sanctuary (5.5%), and only 2.4 % from all other MPAs. The area beyond the 12 nautical mile zone, which represents 74% of the Mediterranean surface area, is less than 3% protected, with Pelagos contributing three quarters of this area (Gabrié *et al.*, 2012). Figure 2 shows the percentage of the 12 nautical miles marine surface area of each country that is under protection in the Mediterranean. For countries with a national MPA system, this ranges from less than 0.01 % of the territory for Cyprus (with only one MPA) to over 11.43 % for France.

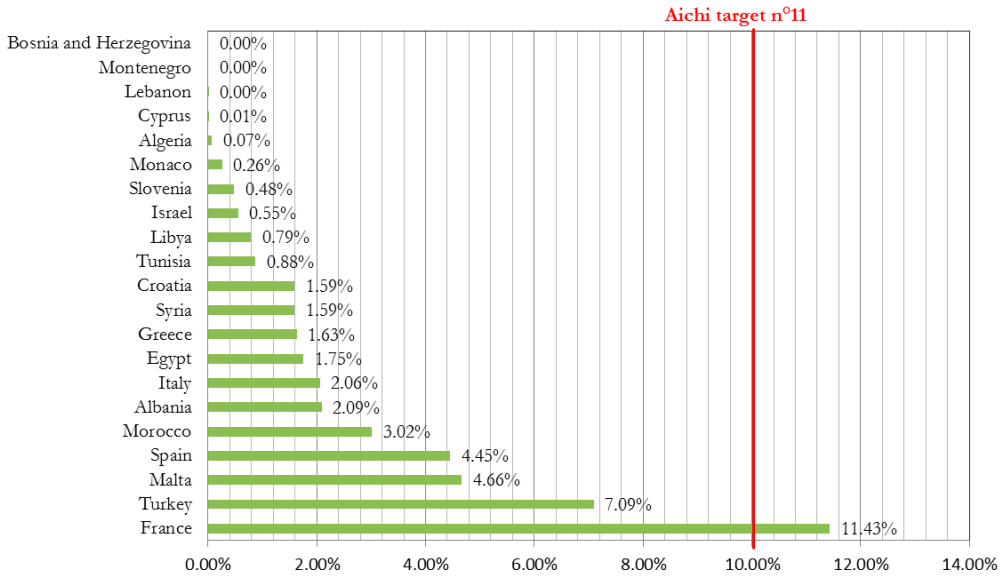


Figure 2: Marine coastal area under protection, presented as a percentage of the total marine coastal area of each Mediterranean country

Chapter 3 presents the institutional frameworks of countries in the Mediterranean. The structure of the institutional context has an influence on the flow of financial resources allocated to coastal Marine Protected Areas as well as the type of management systems applied to them.

2.1.3 Financial sustainability of MPAs in the Mediterranean

For Bovarnick *et al.* (2010), financial sustainability is defined as the ability of a funding system, "*1) to secure sufficient, stable, and long term financial resources and, 2) to allocate these resources in a timely manner and in appropriate forms, to cover the costs necessary*" for effective and efficient management of an MPA with respect to its objectives.

The financial situation of individual Mediterranean MPAs was reviewed as part of the analysis conducted for the Status of Mediterranean MPAs published in 2012 by MedPAN and RAC/SPA (Gabrié *et al.*, 2012): out of the 80 MPAs surveyed, only half answered questions on funding. This is an initial indication that financial aspects are either unknown or not considered relevant to MPA management in many cases.

For MPAs that responded, the total annual operating budgets (for both terrestrial and marine environments, if applicable) range from 0 to €6.345M, with a median of €287,000 and capital budgets ranging from 0 to €974,440, with a median of €100,000. Operating budgets of MPAs in EU countries are greater (annual average €682,845 for EU countries vs. €453,125 for non-EU countries).

MPA financial resources mainly came from national public funds dedicated to the creation and management of MPAs (for 89% of MPAs (Gabrié *et al.*, 2012)), the United Nations Environment / Mediterranean Action Plan for the Mediterranean (UNEP/MAP), sub-regional projects (MedPartnership, European projects, etc.), European countries international cooperation, private funds (foundations), and revenues generated on-site for some MPAs (entrance fees, etc.).

However, many MPAs in the Mediterranean still faced operational difficulties, especially in non-EU countries. Among the MPAs analysed in the 2012 Status, the North ones (from Spain, France, Croatia, Greece or Italy) were the only ones with sufficient budget to ensure effective management (Gabrié *et al.*, 2012): among the 677 existing Mediterranean MPAs (161 MPAs of national status, 9 of only international status and 507 marine Natura 2000 sites), it was estimated that several hundred had no budget at all. In general, existing MPAs suffered from a significant lack of resources to finance operating costs including staff costs and also equipment costs, monitoring, research, training and management, boundary demarcation, effective law enforcement and the provision of adequate park infrastructure. Existing financial contributions were well below requirements and reveal a strong disparity between the northern and southern basin. This lack of funding threatens MPA performance.

In the Mediterranean, some reports have already quantitatively estimated the financial requirements of PAs:

- Through a RAC/SPA questionnaire (1997), only 3% of PA managers in Southern and Eastern Mediterranean countries declared that funding levels were satisfactory, while almost 94% declared that funding was either moderate (23%), low (32%), very low (13%) or even nonexistent (26%).
- Balmford *et al.* (2003) estimated that Northern Africa / Middle East would be financing a mere 5% of their basic needs; Europe as a continent would cover around 20% of its PA financing needs.
- In 2006, the annual operating budget of Protected Areas in the Mediterranean was estimated as being covered at only 30%, with individual funding requirements depending on site management (Lopez *et al.*, 2006).

Moreover, in 2012, MedPAN and RAC/SPA launched a survey to collect information on the level of achievement of CBD objectives for the MPA network in the Mediterranean. This survey concluded that:

- The CBD target of protection of at least 10% of marine and coastal areas is far from being achieved in the Mediterranean. In 2012, the coverage rate was about 4.6% of the Mediterranean including Pelagos (up 7% from 2008) but only 1.1% excluding Pelagos (Gabrié *et al.*, 2012);
- MPA management is still inadequate due to the lack of financial resources to meet needs for staff training, equipment, governance, etc., which are the basics for ensuring effective management of MPAs.

2.2 Objectives of the study

In view to providing further assistance to MPA managers with regard to achieving effective management and mobilising sufficient resources to cover necessary costs, MedPAN and RAC/SPA in collaboration with WWF Mediterranean commissioned a study on the financing needs and financing mechanisms for Marine Protected Areas in the Mediterranean Sea. Vertigo Lab, a consultancy specialised in environmental economics, undertook this study which aimed: i) to estimate the financing gaps for effective management of MPAs in the Mediterranean Sea, ii) to prepare a practical guide for managers on sustainable financing for MPAs and iii) to organise training for local managers and national authorities on the sustainable financing of MPAs.

The present report includes the result of the analysis of financing gaps for effective management of MPAs in the Mediterranean based on a survey on the operating and investment costs of 15 MPAs and the creation costs of 5 MPAs in the 21 Mediterranean countries of the basin.

2.3 Approach to the study

2.3.1 General approach

In order to estimate MPA financing gaps for the whole Mediterranean basin, a budget analysis was conducted at two levels (Figure 3):

At the local level, the cost structure was assessed for a sample of 20 Mediterranean MPAs. Based on these results, a standard cost structure enabled extrapolations for the average situations in MPAs in the region. The local budget analysis provides an evaluation of current financial situation of MPAs ("Basic scenario") and an estimate of individual MPA financing needs for both "Optimal" and "Ideal" management scenarios (see Box opposite and below).

At the national level, 17 national MPA systems were scrutinised. The national budget analysis provides an estimate of current resources mobilisation, including financial resources from international cooperation devoted specifically to MPAs. Difference between current available financial resources at the national level and financing needs of MPAs leads to an estimate of the financing gap observed for the "Optimal" and "Ideal" scenarios (see Box opposite and below).

The **BASIC SCENARIO** is defined as the minimum level of funding required to operate key conservation programs while meeting basic program requirements to sustain ecosystem functions in each MPA (Flores *et al.*, 2008). The current financial situation of MPAs in the sample is a good approximation of the basic scenario.

The **OPTIMAL SCENARIO** is defined as the level of funding required for operating all programs to reach and sustain optimal ecosystem functioning in MPAs. This ensures achievement of short-, medium-, and long-term goals for Marine Protected Areas, in accordance with the highest environmental, social, and economic standards (Flores *et al.*, 2008). The Optimal scenario is a representation of effectiveness within MPAs. Effectiveness shows how far activities implemented during MPA development allow for achieving MPA preservation goals (Hockings *et al.*, 2000).

The **IDEAL MANAGEMENT SCENARIO** is defined as the level of funding required to achieve Aichi Target 11, i.e. "*at least […] 10 per cent of coastal and marine areas […]conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas*". The Ideal management is thus the sum of costs for the effective management of existing national MPA systems (optimal scenario) and the costs for the creation and the effective management of additional MPAs, making the system reaching the 10% Aichi target.

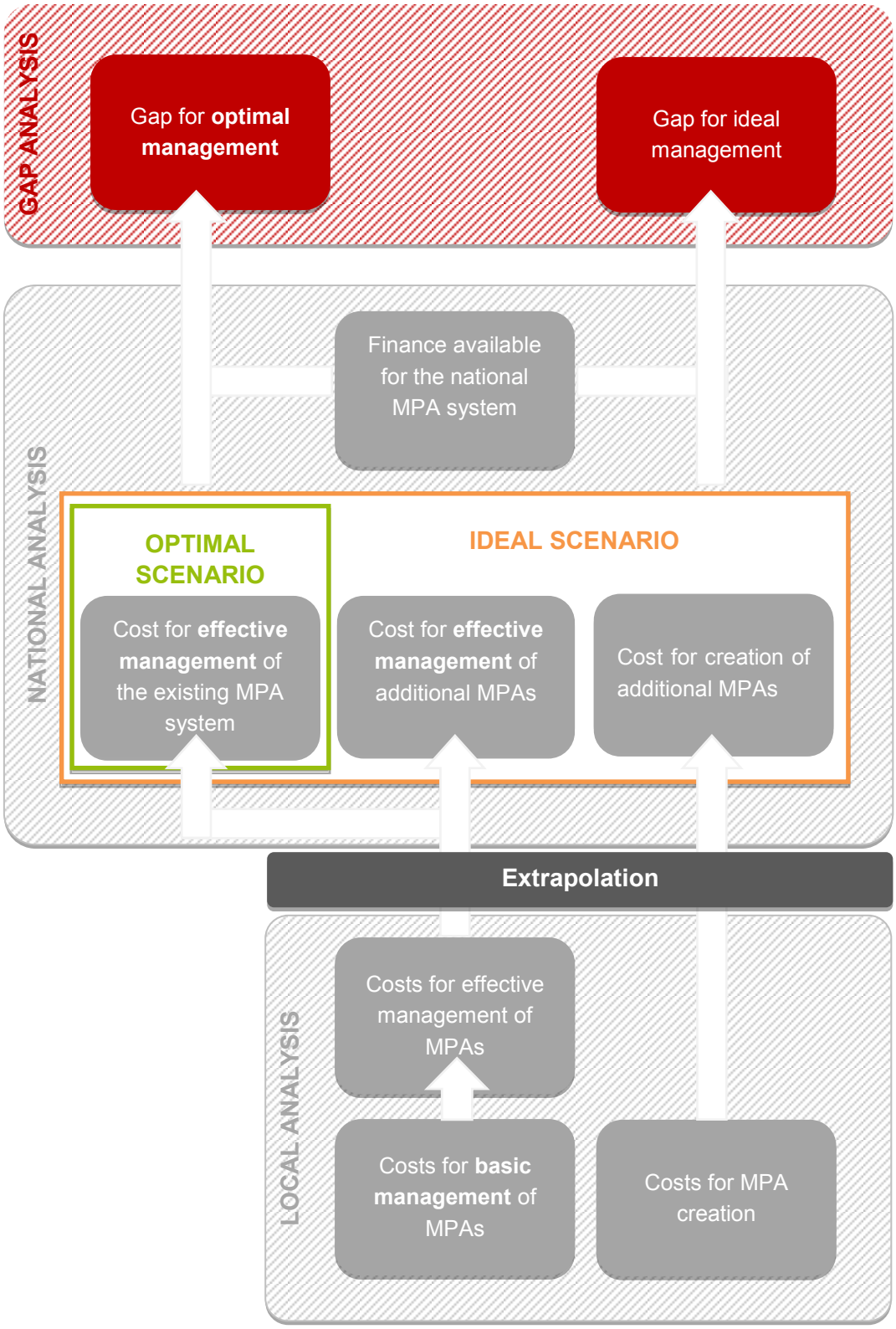


Figure 3: Gap analysis: general approach

2.3.2 Methodology for assessment of the financial situation at site level

a) Survey development

Data quantifying the basic costs of maintaining an established MPA can be derived from annual budgetary information (McCrea-Strub *et al.*, 2011). With regard to local budget analysis, the purpose of the survey was to obtain a clear understanding of the financial structure characterising the activities and components included in the existing management of MPAs. This overall understanding of financial transactions arising from the existence of MPAs provides information on the costs of activities necessary to achieve MPA objectives. Combination with qualitative analysis of MPAs would allow the financing requirements of the various MPA management systems to be specified and indicate how additional effort could ensure the long-term and optimal management of the MPA.

In order to collect such data, a local survey was undertaken that consisted of an online questionnaire to which 20 MPAs responded out of 32 Mediterranean MPAs invited to fill in the questionnaire. This questionnaire was supplemented by phone interviews in order to complete data collection with the necessary qualitative information.

Sample MPAs were selected for the survey with regard their ability to provide either information on the costs associated with 11 identified "effective" management parameters or information on costs associated with their establishment (see Appendix 1).

To collect information on the costs associated with "effective" management parameters, questionnaires were distributed to MPAs for which data had already been collected in the context of the Mediterranean MPA 2012 inventory work and identified as being relatively "more adequately" managed than other MPAs. These sampled MPAs were assumed to mobilise the minimum resources required to operate actions identified as essential to achieve and sustain effective ecosystem functioning in MPAs. These MPAs could thus theoretically provide an approximation of the financing requirements for basic management of an MPA.

The survey was structured to financially characterise the activities and components of existing MPA management. Assessing each use of resources – human, material and financial – helped MPA managers identify those resources that need to be funded to allow implementation of activities and hence achieve MPA objectives.

The questionnaire comprised three parts (Figure 4) detailed below. The financial costs of an MPA include the initial, typically short-term, investments for its creation, along with operating costs (including administration, management and enforcement) (McCrea-Strub et al., 2010) (see Appendix 2 and Appendix 3 for details of data collection).

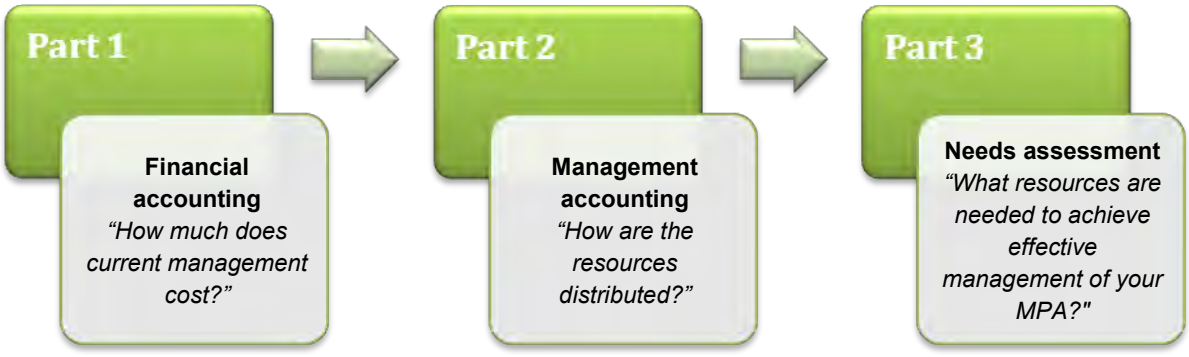


Figure 4: Structure of the local budget analysis questionnaire

Part 1 of the questionnaire thus requires financial data to determine the operating costs (as detailed in Figure 5) and revenues for existing MPAs during the current year (2014). Also, assessment of the main past investments provides an approximation of costs for creating the MPA. In the financial analysis, only direct costs were considered, i.e. costs directly incurred by managers. Part 1 thus provides a quantitative analysis of creation and operating costs for existing MPAs.

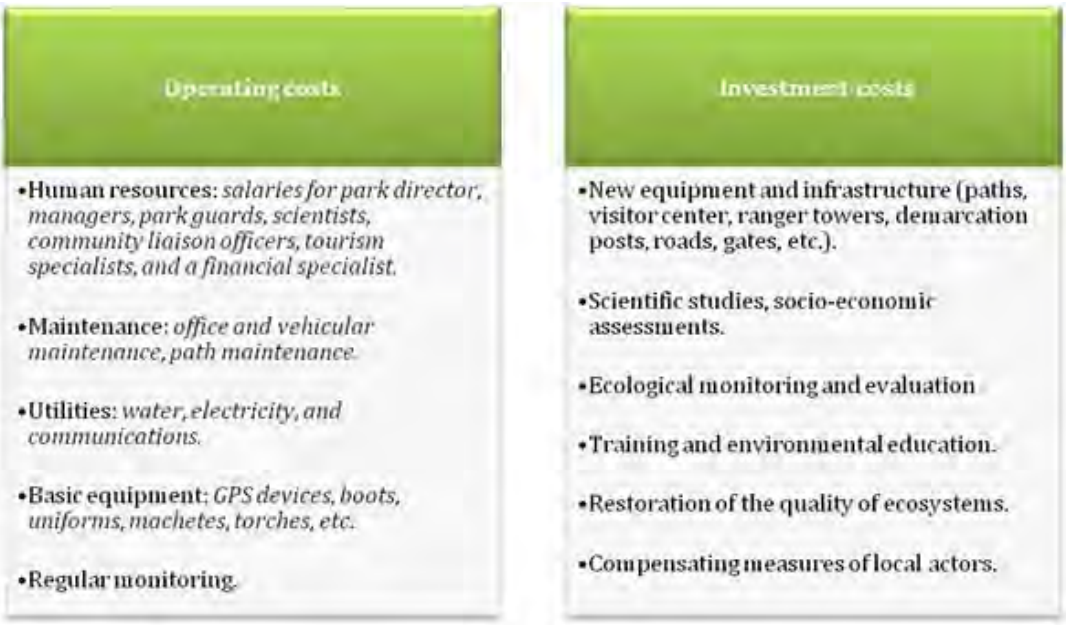


Figure 5: Typology of costs
(Source: Bovarnick *et al.*, 2010)

Part 2 aims to collect information on management accounting. Each management component is described via the amount of resources necessary for its implementation (as a percentage of the individual resource). This analysis can help MPA managers identify weaknesses and strengths in MPA management and hence locate where additional efforts are needed. The four basic management components identified are presented in Figure 6.

Figure 6: MPA management components

They are detailed as follows:

- **Administrative organisation and planning**; this includes general management activities (accounting and financial management, office and infrastructure maintenance, human resources management etc.). It also involves participative processes to develop and monitor implementation of management plans and business plans, and management effectiveness assessments (Bovarnick *et al.*, 2010).
- **Administrative support for stakeholder engagement (training, seminars, meetings and communication tools)**; this component addresses communication needs to inform the general public and stakeholders. Some investments are necessary to strengthen local stakeholder organisations and institutions. Some of these costs are related to the drawing up of contracts and to negotiation processes to set up contract rules and to ensure proper functioning of enforcement mechanisms (control of user behaviour, sanctions and conflict resolution).
- **Knowledge acquisition and environment monitoring**; monitoring is required to follow environmental performance on the field as well as to provide the basis for further adaptation. Specific data acquisition and information is needed regarding the baseline and potential benefits of the MPA. Studies are necessary to identify priority areas and criteria for the representativeness of the MPA and its connectivity with

surroundings environments. Economic analyses are needed to assess new sources of financial resources and find the most cost-effective measures to deal with pressures from various economic sectors. Data acquisition and indicators are part of the monitoring systems that are necessary to demonstrate the performance of the MPAs or readjust them when necessary. R&D studies and data/information acquisition may be undertaken at any stage of the development of the project or initiative and serve several purposes.

- **Control, regulation and supervisory**; some MPAs clearly defined enforcement procedures comprising regular surveillance of the area and control of practices to prevent threats on the MPA.

Finally, Part 3 of the questionnaire provides a quantitative analysis of the human, material and financial resources needed by managers to effectively manage their MPA. Because not all MPAs are in the same phase of their development, resources and activities to be implemented may vary among MPAs. Figure 7 below presents these activities according to each phase of development of an MPA (FFEM, 2010).

Figure 7: Phases of MPA development

(Source: FFEM, 2010)

b) Sample description

The MPAs selected are listed in Appendix 4. With marine areas ranging in size from 0.3 to 1,581 km^2, as well as encompassing a broad geographic representativeness, the sample was adapted to the diversity of MPAs found within the Mediterranean MPA network. However, to ensure representativeness, specific criteria were considered (Table 1):

- Governance types: 16 MPAs are run by government agencies, 3 by shared governance and 1 by private governance;
- Level of conservation (IUCN classification): 3 MPAs are in class II, 9 in class IV, 2 in class V, 1 in class VI, and 5 not classified or unclassifiable (Natura 2000 sites);
- Objectives (biodiversity/species/habitat/ecological function conservation, sustainable management of tourism, sustainable management of fisheries, sustainable management of other socioeconomic activities, conflict resolution, knowledge increase, promotion of cultural and historical heritage, and education and awareness-raising): among the 20 MPAs selected, all have a habitat and species protection purpose. However, only 12 MPAs integrate the sustainability dimension into their objectives;
- Natural resources protected (e.g. coralligenous habitats, sea-grass and whales).

MPA characteristics	Mediterranean MPAs[3]	Sampled MPAs in surface
Governance types	Local communities	3%
	Government agencies	81%
	Shared governance	8%
	Private governance	1%
IUCN classification	II & III	24%
	IV	25%
	V	10%
	VI	2%
Objectives	Habitat and species protection	97%
	Sustainable development	70%

Table 1: Representativeness of the MPA sample

3 - Included in the MAPAMED database

With a marine surface area of 3,519 km^2, covering 13% of the total area of Mediterranean MPAs[4], this sample is broadly representative of the range of MPAs in the basin and provides an indicative approximation of the cost of day-to-day running of individual MPAs. In addition, because questionnaires were only distributed to MPAs for which data had already been collected in the context of the Mediterranean MPA 2012 inventory work and identified as being relatively well managed, it is assumed that these figures are a meaningful approximation of the costs for basic management of MPAs at various phases of their development.

Since the main pressures on marine resources come from land-based or coastal activities (pollution, tourism, etc.), most MPA activities are carried out on the coast (public education, surveillance, etc.) rather than at sea. The share of terrestrial and coastal areas (as an indicator of exchange surface between land-based pressures and marine resources) is thus more likely to affect MPA management costs than the total surface area of the marine part. However, whatever the share of the marine part in the total surface area, studies show that larger MPAs, in general, present better opportunities to generate economies of scale for their expenses (Bovarnick *et al.*, 2010). These factors are further analysed in the report.

Looking at mixed PAs (i.e. terrestrial and marine PAs), it would be difficult to make a distinction between the budget allocated to the marine part and the budget allocated to the terrestrial part. For this reason, the budget of PAs was analysed as a whole, terrestrial part included: all costs were assigned to marine area management if a more detailed cost breakdown was not available.

20 MPAs were considered as part of the survey. MPAs having only an international status were not included in the analysis due to their particular management and their non-representative surface area at the basin level (e.g. Pelagos covers 87,500 km^2 compared with a total surface area of international MPAs of 87,998 km^2 in the whole basin (Gabrié *et al.*, 2012)). A reference marine surface area for the Mediterranean basin of 647,853 km^2 (total surface area of the 12 n.m. zone[5]) was used as shown in Figure 7. The scope of the analysis is thus limited to 26% of the Mediterranean surface.

Sampled MPAs were assumed to provide two types of financial data - costs for MPA creation and costs for effective management (further referred to as the financing needs for effective management):

- Sampled MPAs in their **pioneer phase** (as defined by the FFEM) could more easily provide accurate data relating to their creation costs as they had been established more recently. Theoretically, creation begins with the idea that a particular location deserves protection, and ends at official designation of the MPA (FFEM, 2010). Five such MPAs were studied as part of this sample, in Albania, France, Tunisia and Turkey.
- Sampled MPAs in their **autonomous phase** (as defined by the FFEM) are assumed to be fully managed for the achievement of their conservation goals and attempting to effectively operate programs to reach and sustain optimal ecosystem functioning. Theoretically, they are the most likely to have identified actions and resources needed to achieve effective management. Fifteen such MPAs were studied as part of this sample, in Algeria, France, Greece, Italy, Lebanon, Monaco, Slovenia and Spain.

4 - Reference surface areas used for the Mediterranean MPA marine surface area (to calculate percentages): 27,066 km2 (Gabrié *et al.,* 2012). Pelagos and Regulated Fishing Areas are excluded from the analysis.

5 - Some countries have a 6 n.m. territorial waters limit. However, as in Gabrié *et al.* (2012), it was decided to set a consistent distance of 12 n.m. for all countries for the purpose of this study and to circumvent the judicial problems of this enclosed sea.

c) Processing the financial data

Using the same data processing principle as McCrea-Strub *et al.* (2011), all costs were converted into 2014 Euros by using the local currency to Euros exchange rate. To standardise financial information into data that could be compared across all countries studied, costs were also adjusted to account for purchasing power parity (PPP), an indicator of the local 'value' of one dollar. PPP-adjusted values were then converted into 2014 euros.

2.3.3 Methodology for assessing resource allocation at the national level

a) Country sample and surveys

The analysis of resource mobilisation at country level, which forms part of the analysis of the financing gaps for effective management of Marine Protected Areas, strongly depends on the ability to identify the financial resources mobilised through international cooperation as well as through government budgets for each country in the Mediterranean (Figure 8 below).

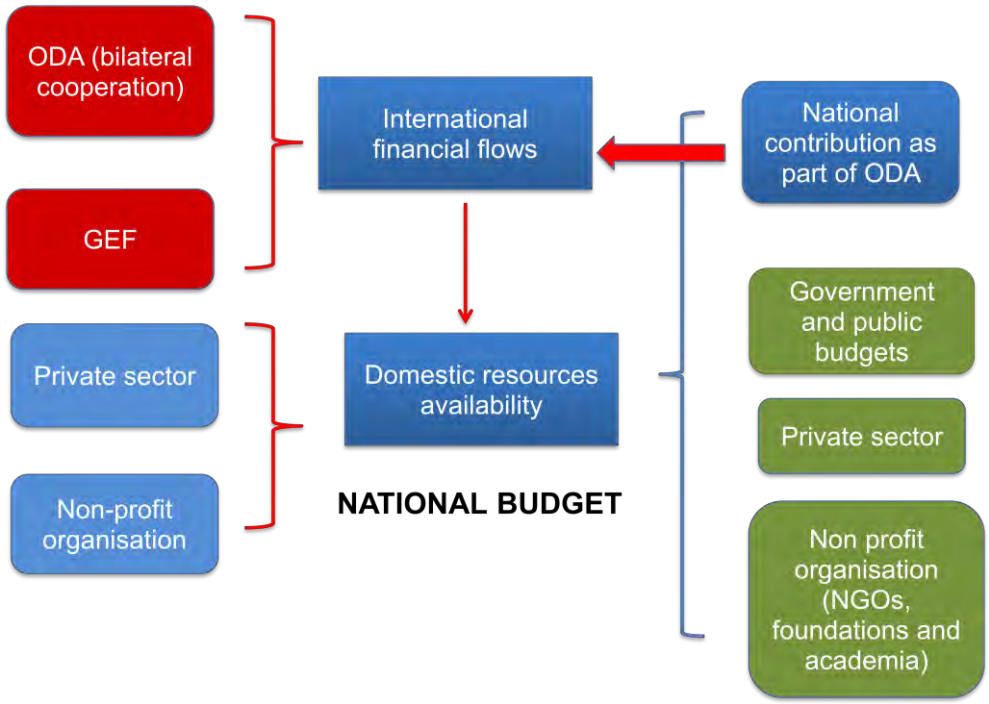


Figure 8: Sources of revenues for national budget

(Source: the authors)

Priority was given to Mediterranean countries that have identifiable government officials in charge of MPAs and of international cooperation. From the 21 countries surrounding the Mediterranean, Bosnia Herzegovina, Morocco, Libya and Syria were excluded from the analysis due to difficulties identifying national contacts or national respondents. Surveys were conducted in the remaining 17 countries by means of online questionnaires, followed up by phone call interviews and e-mail exchanges. The questionnaires were sent to national government officials in Ministries or Agencies responsible for the Environment. Information was also requested from the main official for international cooperation. Fourteen countries fully provided written information.

The ***surveys provided information on public funding from central governments*** for MPAs, highlighting those resources devoted to the management of MPAs and the creation of new ones. Information was requested on other public funding channeled through other Ministries and public entities (local and regional). However, not all the countries in the sample were able to report on local and regional funding due to the lack of centralized data at the national level. Information was also requested on the financial strategies foreseen for achievement of Aichi Target 11 and national objectives in terms of creation or extension of MPAs. Not all countries provided information on the Aichi target. ***Financial resources mobilised through international cooperation*** were also identified using available online resources and written contributions from official focal points.

All of the above information was supplemented by online desk-based research in order to characterise national institutional contexts affecting the flow of national expenditures for Marine Protected Areas.

b) Level of confidence for the financial information

The main limitation in the analysis of resource mobilisation at the national level for MPAs is the lack of integrity of the reported financial data. For this reason, each country has been classified into one of three confidence levels (Table 2):

- Low level means information mainly obtained from desk-based research;
- Medium level means information reported by experts but not validated by national authorities;
- High level means information reported exclusively by national authorities and/or validated by them as well as information reported by official organisations (mainly GEF, OECD and EU). In order to facilitate the validation process by national authorities, a country profile was produced for resource mobilisation summarizing all the financial data.

Level of confidence	Countries	Explanation
High confidence level	**Albania**	National authorities sent written financial information on national budget and international cooperation
	Croatia	Financial data on central budget and international cooperation validated by national authorities
	Cyprus	National authorities sent written financial information on the national budget.
	Egypt	National authorities sent written financial information on the national budget. International cooperation budget comes from public official data.
	France	Financial information was reviewed by the National Agency for MPAs. National authorities validated EU projects
	Greece	National authorities sent written financial information on the national budget.
	Italy	National authorities sent written financial information on the national budget.
	Israel	National authorities sent written financial information on the national budget.
	Lebanon	National authorities sent written financial information on the national budget.
	Monaco	National authorities sent written financial information on the national budget.
	Slovenia	National authorities sent written financial information on the national budget.
	Tunisia	National authorities sent written financial information on the national budget. International cooperation budget comes from public official data (FFEM)
Medium confidence level	**Spain**	National authorities sent written financial information on the national budget.
	Montenegro	Written information was provided by a national NGO but not validated by the national authorities.
Low confidence level	**Algeria, Malta**	Information available for international cooperation.

	Turkey	No information available on national budgets. Information available for international cooperation. No information available on the national budget.
Countries non-assessed	**Morocco, Bosnia and Herzegovina, Syria, Libya**	Lack of information on international resources and national budgets

Table 2: Confidence level denoting the level of integrity of the financial data

The level of confidence classification was used to divide the initial sample into smaller samples of countries with the same level of confidence in the financial data, with the purpose of providing more insightful results regarding the financing gaps for MPAs.

c) Sources of information

Available online information for the period 2010-2014 was reviewed in order to identify international financial flows from international cooperation, based on the following sources:

- DAC-OECD Rio markets database[6]. Based on the DAC countries[7] report to the Creditor Reporting System (CRS), the CRS of the overall bilateral Official Development Assistance (ODA) related to Coastal and Marine Protected Areas was reviewed. This information was then updated based on reported ODA from France (AFD – *Agence Française de Développement*).
- GEF's database[8] focusing on projects related to Coastal and Marine Protected Areas. Projects under the GEF-5 cycle of programs were reviewed along with the GEF-6 replenishment cycle projections.
- EU LIFE programs database[9]. For the EU Member States in the region, projects financed by the EU LIFE programs related to Coastal and Marine Protected Areas were assessed. Resources from LIFE programs are mostly devoted to the strengthening of Natura 2000 sites and network. It was difficult to assess the contribution from other EU financing instruments as they mainly focus on wider environmental and development issues.
- The 4th and 5th National Biodiversity Strategies and Action Plans reported to the Convention on Biological Diversity (CBD) were reviewed, along with other national surveys undertaken on similar issues.

d) Processing of financial data

The financial data from central governments and from international cooperation was processed as follows:

6 - http://stats.oecd.org/Index.aspx?DataSetCode=RIOMARKERS (on January, 2015)

7 - Donors countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States, European Community.

8 - http://www.thegef.org/gef/gef_projects_funding (on October 10th 2014)

9 - http://ec.europa.eu/environment/life/project/Projects/ (online consultation March 6th 2015)

- Foreign currencies (US dollars and currencies outside the Euro) were converted into Euros using the monthly average exchange rate of December 2014 (Banque de France[10]). Financial data is presented in current prices.
- For the financial resources from international cooperation (Bilateral ODA, GEF and UN agencies, EU funds), a distinction was made between grants and co-funding by governments.
- Data on financial resources from bilateral ODA was reported as yearly disbursements allocated per project and per country, as they represent the effective current annual expenditure (see Appendix 5). From observation of financial data from GEF and EU programs, there is a lead time between agreed commitments and effective use of the available international financial resources. There may be a fixed time window before a country receives initial disbursements, which made the assessment of the effective level of investments per year difficult over the studied period.
- Therefore, for the financial resources from GEF (and GEF agencies) and EU Funds, reported as commitments, the total budget was divided by the duration of the project (***Total amount of resources / N years of project implementation***), as a first approximation of disbursement per year and per project.
- For the country level analysis, the assessment was restricted to the period 2012-2014. Financial data outside this timeframe was excluded.
- Within the scope of financial resources channeled through GEF, bilateral ODA and EU funds, the projects were analysed in detail and an estimate made of the amount of money that might have finally been allocated to MPA activities. Thus, the portion of the total budget corresponding to MPAs was isolated based on the GEF project identification form, ODA project description and EU LIFE project description.

e) Type of analysis

The analysis of resource mobilisation for MPAs in the Mediterranean region followed the standards agreed by Parties of the Convention on Biological Diversity (CBD). Countries in the Mediterranean region have several channels from which they get financial resources:

- Only countries eligible to receive bilateral Official Development Assistance (ODA) and multilateral aid (from the GEF and GEF agencies) were assessed. National contributions as part of the co-funding requirements for projects from multilateral and bilateral cooperation were highlighted. These resources have to be included in the national budget and denote the financial effort made for MPAs.
- EU countries are the main contributors to the ODA in this region, which excludes them as recipients. However, EU member countries in the Mediterranean receive financial support from EU institutions. For those, the main focus was on assessment of the EU LIFE program in the region.
- Countries can also acquire resources from NGOs, foundations, trust funds and/or donations. These resources are usually grants that generally serve as instruments to raise supplementary funding from other donors or are used to supplement national investments from governments and NGOs. The private sector financial contribution and NGO donations are usually resources allocated to specific international or

10 - https://www.banque-france.fr/economie-et-statistiques/changes-et-taux/les-taux-de-change-salle-des-marches/parites-moyenne-mensuelle.html (online consultation January 23rd 2015)

national projects. As accurate data on the funding from international foundations was not found, the focus was on regional projects generally funded by international NGOs in the region.

- In addition to the resources from international cooperation, national budgets for MPAs were assessed. Governments allocate some resources from their national budget as part of the public funding for biodiversity-related areas. Public expenditures are investments from central government, public agencies and regional governments. Public expenditures are levied according to the institutional framework implemented for managing MPAs. Some countries have a centralized system for which budget is allocated by the central government, usually the Ministry responsible for the Environment. Others have a more decentralized system, which provides investments from regional authorities.
- At the national level, some resources are provided as private donations or in-kind contributions allocated on a specific project basis. These resources are not meant to be integrated into the national budget of the country but mitigate the financial burden to run specific projects. They have not been considered here.

f) Limitations of the survey

Some difficulties should be highlighted:

- Most of the data on ODA financing resources for biodiversity are marked for several biodiversity-related activities, which entails a risk of double-counting. To mitigate this problem, projects benefiting from ODA resources were examined in detail and those specifically related to Coastal and Marine Protected Areas isolated. Moreover, a clear distinction was made between ODA bilateral cooperation and the GEF (and related UN agencies).
- Data on national expenditures mostly denotes the current operating budget of the central administrative body, generally the Ministry responsible for the environment, in charge of coastal and marine issues. This budget supports actions related to inspections, monitoring and technical studies. These resources are not given to managers of the MPA but reduce their financial burden for the same activities that would have otherwise been financed by the MPA.

g) Hypothesis for scenarios for the achievement of Aichi targets

The level of investment needed will depend on the starting point of the institutional structure used to implement the MPAs and targeted activities, as well as the extent to which they have political support and are integrated into overall policy. This is true at the early stage of the development phase of MPAs and becomes a condition for the sustainability of MPAs in their later stages of development.

The governance structure is mostly related to those investments needed before and within the implementation period. Some investments will be necessary to make the policy operational and to monitor and evaluate the system being implemented in order to adapt or readjust it. Its sustainability will depend on the capacity of the governance system to create conditions for long-term adaptable systems, both in the environmental field (revised environmental objectives) and in the social field (adapting user rules according to outcomes).

In the scope of this study, it is assumed that conservation of 10 per cent of coastal and marine areas in the Mediterranean (Aichi Target 11) would be the result of an ideal MPA system management at the national level. The ideal management scenario is therefore defined as the level of funding required to:

- Create new MPAs in order to achieve Aichi Target 11 of 10% of marine territory.
- Operate all programs to reach and sustain an effective level of management within the existing MPAs and the identified missing MPAs.

In the sample, not all the countries have reported on their own plans to achieve the Aichi targets. This is the reason why it was decided to extrapolate from the current surface area of MPAs in each country, the total surface area to be extended, or created, in order to comply with the 10% target. MedPAN information (2012) on MPA surface areas (in km^2) in each country was used as a baseline.

The financing gap for achievement of the Aichi target is calculated using the information provided on resource mobilisation at the national level (Chapter 4) and the financial requirements for MPAs (Chapter 3).

3 ASSESSMENT OF MPA FINANCING NEEDS AT LOCAL LEVEL

KEY POINTS:

The Mediterranean MPAs studied show an average level of available finances of €18,449 per km² per year, human resources being the main cost item. Observations from a sample of 20 Mediterranean MPAs show differences in the total financing available for MPAs between European Union and non-EU countries: **EU MPAs have higher total financing than non-EU MPAs**.

Looking at costs per unit surface area, **operating costs** ranged from €591 to €66,632 per km² during the last financial year for autonomous MPAs and from 0 to €10,783 per km² during the last financial year for pioneer MPAs. Investment shows fewer variations between autonomous and pioneer MPAs: **annual investments** range from 0 to €15,026 per km² per year for MPAs in the autonomous phase and from 0 to €2,696 per km² per year for MPAs in the pioneer phase.

Financial difference between autonomous and pioneer MPAs can be explained by differences in management needs and funding structures: governmental budgets (local, regional and national sources) are the main sources of financing for MPAs. Pioneer MPAs present a **lower diversity of financing** in comparison with autonomous MPAs. This result highlights the lesser financial autonomy of pioneer MPAs in comparison with autonomous MPAs. Also, a larger portion of **international and private funds** is observed for pioneer MPAs.

Human resources are the principal operating cost item: salaries in most MPAs represent over 50% of operating costs. With regard to human resources, **86% of MPA managers declared that current MPA financing does not cover 100% of their needs to bring management up to an effective level**. These insufficient revenues for effective management are more prominent in non-EU countries

For the studied MPAs, **estimated creation costs ranged from €29,930 to €50,075 in total**. The **average total costs of creation of Mediterranean MPAs amounts to €42,600**. As demonstrated, **creation costs are not correlated to the size of the MPA**, but heavily rely on the duration of the creation phase of the MPA: **the longer the period, the higher the creation costs**.

This chapter presents the findings of the local analysis on the sample of MPAs. Financial data for the year 2014 was extracted either from the projected budget or from the actual budget of selected MPAs at the local level, when available. The findings of this chapter primarily highlight the financial situation of representative MPAs: it focuses on quantitative assessment of the resource needs of individual MPAs, as well as the main funding sources and identification of the most important financing actions. It then provides a detailed assessment of MPA financing needs based on the cost of core management activities.

3.1 Cost for basic management of MPAs in the Mediterranean

3.1.1 Budget of existing MPAs

a) Total available funds

Total available funds are the sum of all financial sources for MPAs. The range of financing sources includes:

- Local, regional and national government budgets;
- Bilateral and multilateral development agencies budget (e.g. GEF);
- NGOs funding and private contributions; and
- Site-based revenues.

For the studied MPAs, total incomes ranged from €36,664 to €2,944,736 in 2014 (median, €263,692 for the year 2014), with an average of €430,768 as shown in Table 3. Total funding for MPAs in European Union countries are higher than for other countries (on average €559,808 for an EU MPA and €95,266 for a non-EU MPA).

Region	Autonomous MPAs (in euros per year)	Pioneer MPAs (in euros per year)
Mediterranean MPAs	324,430 (15)	802,952 (5)
EU MPAs	361,064 (13)	2,944,736 (1)
Non-EU MPAs	104,631 (2)	89,023 (4)

Table 3: Average total available funding for sampled MPAs in 2014

b) Costs per unit surface area

The use of revenues for operating costs per unit surface area is presented in Table 4.

For autonomous MPAs, operating costs ranged from €591 to €66,632 per km^2 during the last financial year (median, €7,330 per km^2); 4 MPAs have a budget between €20,000 and €100,000 per km², 3 between €10,000 and €20,000 per km², and 7 MPAs between €1 and €10,000 per km².

For pioneer MPAs, operating costs ranged from 0 to €10,783 per km^2 during the last financial year (median, €644 per km^2).

Region	Autonomous MPAs (in euros per km^2 per year)	Pioneer MPAs (in euros per km^2 per year)
Mediterranean	15,232 (15)	2,665 (5)
EU MPAs	15,984 (13)	1,869 (1)
Non-EU MPAs	10,720 (2)	2,864 (4)

Table 4: Average annual operating costs per unit surface area for sampled MPAs in 2014

As expected, autonomous MPAs have higher operating costs than pioneer MPAs, which highlights a certain level of organisational and financial autonomy.

Contrary to total budget results, non-EU MPAs present operating costs per unit surface area higher than EU MPAs on the average. This result can be explained by the relatively lower size of sampled MPAs in non-EU countries. Previous studies have already demonstrated that smaller MPAs incur higher costs per unit surface area (Gabrié, 2010).

In addition to operating costs, annual investment was scrutinised, and shows fewer variations.

Table 5 presents the average annual investments for sampled MPAs, ranging from 0 to €15,026 per km^2 per year for MPAs in the autonomous phase (median €1,805 per km^2 per year) and from 0 to €2,696 per km^2 per year for MPAs in the pioneer phase (median €180 per km^2 per year); 1 MPA has an annual investment budget above €10,000 per km^2, 2 MPAs range between €5,000 and €10,000 per km^2 per year, 12 MPAs between 0 and €5,000 per km^2 per year and 5 MPAs did not report investment costs.

Region	Autonomous MPAs (in euros per km^2 per year)	Pioneer MPAs (in euros per km^2 per year)
Mediterranean	3,479 (12)	764 (3)
EU MPAs	12,156 (10)	265 (1)
Non-EU MPAs	3,322 (2)	930 (2)

Table 5: Average annual investments expenditures per unit surface area for sampled MPAs in 2014

Figure 9 presents the breakdown of annual costs among autonomous and pioneer MPAs:

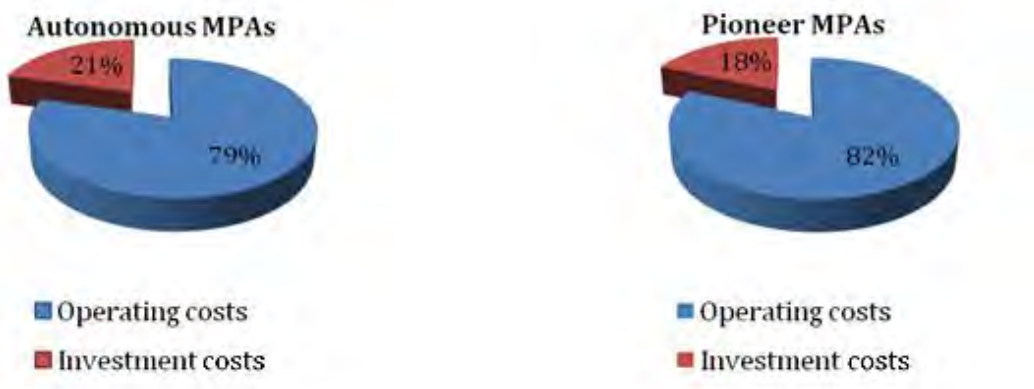


Figure 9: Average distribution of annual costs

Despite a similar distribution of investment and operating costs on total expenses, pioneer MPAs present a higher variation of their operating costs than autonomous MPAs for the period 2012-2014. On the contrary, pioneer MPAs present fewer variations in their annual investments than autonomous MPAs for the same period (Figure 10).

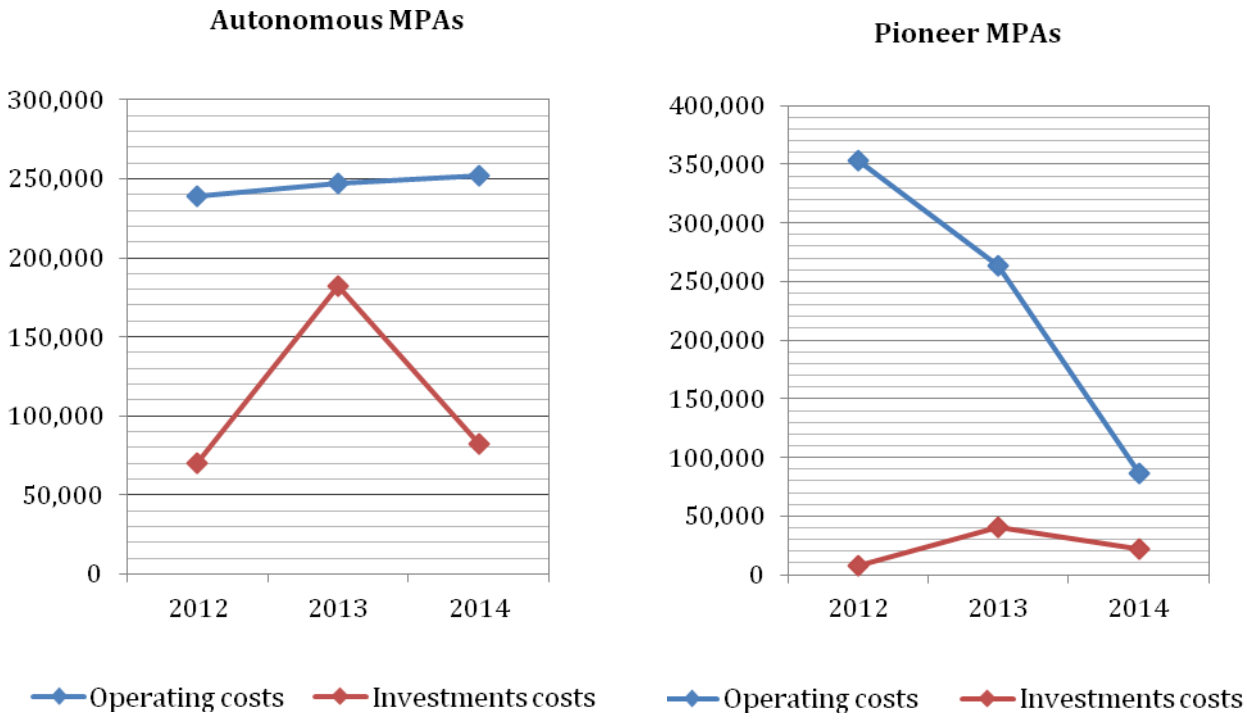
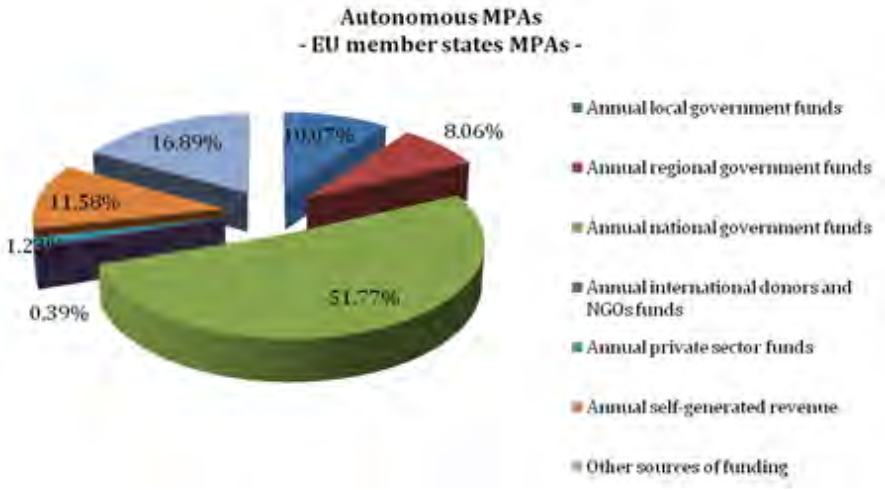


Figure 10: Variation in operating and investment costs

c) Available funds by source

Figure 11 provides an overview of existing funding by sources:



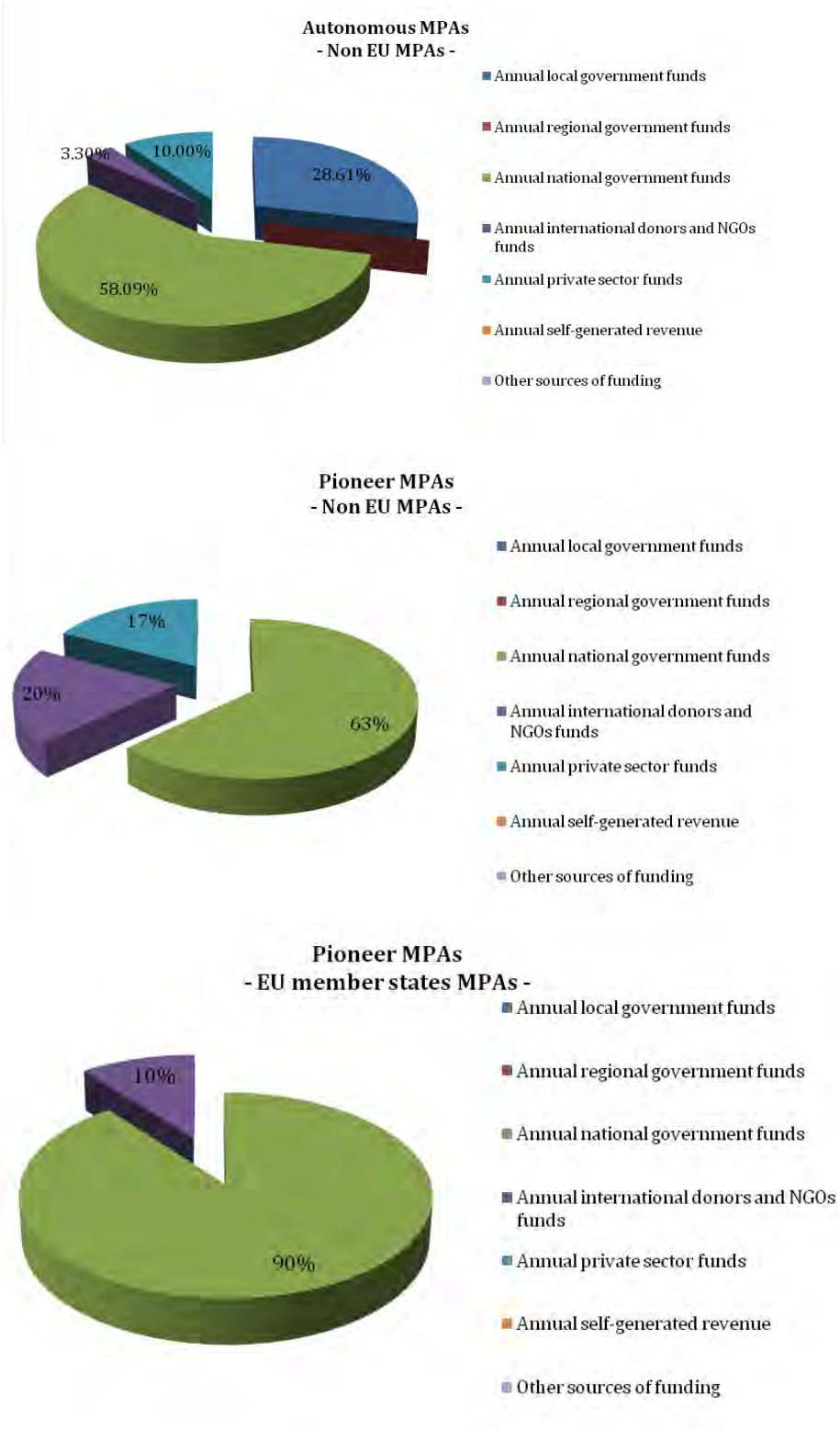


Figure 11: Contribution to total income according to type of funding sources per sub-region

For the last financial year, except for one MPA, **government budgets** (local, regional and national sources) were the main sources of funding for MPAs. This always covered more than 50% of annual expenditures, ranging from 53% to 98% of total revenues for autonomous MPAs. MPAs with a lower percentage of government funding compared with the entire sample are generally those countries that have a large contribution from self-generated revenue. For one autonomous MPA, 85% of total income comes from European

Union programs (National Strategic Reference Framework -NSRF, INTERREG, 7th framework program).

Self-generated revenues are the second largest source of funding for the autonomous MPAs in the sample: site-based revenues represent 10% of total funds in the sample. They correspond to revenues from commercial activities and services. Extrapolating trends to the regional level suggests that the region is far from achieving self-sustainability in MPA financing. Only 3 MPAs in Spain and Italy present self-generated revenues accounting for more that 20% of their total financing.

Local MPAs have also benefited from **international cooperation** (ODA, GEF, EU LIFE projects). However, these resources represent less than 1% of the total.

Regional projects led by organizations such as the RAC/SPA, the WWF and MedPAN have provided strong support to local MPAs in the Mediterranean. The investments amounted to €4,400,233 over 2010-2014 (see paragraph 4.1).

The remaining 14% of available financial resources in the region originate from a variety of sources (including unspent revenues from the previous year).

Scarcely reported, non-monetary contributions can also be important: volunteers can provide a substantial human resource for managers of MPAs, from site maintenance to site monitoring. This can be a useful complement to professional activities and can cover a large part of financing gap, as noted by Watson *et al.*, 2014. In some cases, partnerships between MPA managers and scientists cover research and monitoring needs in the MPA. These two examples of non-monetary contribution were not taken into account in the analysis but could significantly change results in some cases.

2012 FINDINGS ON FINANCIAL SOURCE DIVERSITY

Funding comes primarily from **governments** (89% of MPAs - including MPAs who did not give their budgets); only 12 MPAs have funding from NGOs and international donors (see Fig. 83).

Self-financing is present in 36% of MPAs (29 MPAs including Lebanon, Slovenia, Croatia, Turkey, Greece, France, Italy, Spain) which is still too low to ensure the sustainability of an MPA which has no other resources, this is especially the case in some countries in the South or the North-East (8 no responses).

The **private sector's** commitment is still very low (only 8 MPAs benefit from it – Croatia, France, Greece, Spain, Italy, Slovenia, Lebanon) (Gabrié et al., 2012).

For MPAs in the pioneer phase, one initial observation that can be made from the results is the lower diversity of funding resources for MPAs in the pioneer phase in comparison with autonomous MPAs. This result highlights the lesser financial autonomy of pioneer MPAs in comparison with autonomous MPAs. Also, a larger portion of international and private funds is observed for pioneer MPAs.

3.1.2 Resource consumption

a) Operating costs

The local survey from the 2014 budget analysis clearly shows that **human resources are the principal operating cost for MPAs**. There is a strong positive correlation between the number of permanent staff and the operating budget (correlation coefficient, r = 0.93 for autonomous MPAs and r = 0.99 for pioneer MPAs). This was expected as salaries (for the park director, managers, park guards, scientists, community liaison officers, tourism specialists, and financial specialists) represents over 50% of operating costs for 60% of sampled MPAs (median, 77%).

Human resources consist of permanent staff and non-permanent staff often paid by specific scientific programs or projects (91% of staff on average) for autonomous MPAs. Seasonal staff (9% on average) provides mainly field reinforcements during the summer season for monitoring, education and control for autonomous MPAs. Figure 12 below presents the distribution of staff per skill. On the average, administrative staff (directors, secretaries and accounting officers) represents 48% of permanent staff for MPAs in the autonomous phase. Scientific staff only account for 9% of permanent staff on average in autonomous MPAs (scientific skills are often mobilised for specific projects and paid by project-based investment budgets, as mentioned during interviews).

Pioneer MPAs focused their recruitment on permanent administrative staff: during establishment of an MPA, efforts have to be made in defining the administrative and legal framework. Scientific staff is hired seasonally on short-term contracts to support specific projects in line with the development of the MPA.

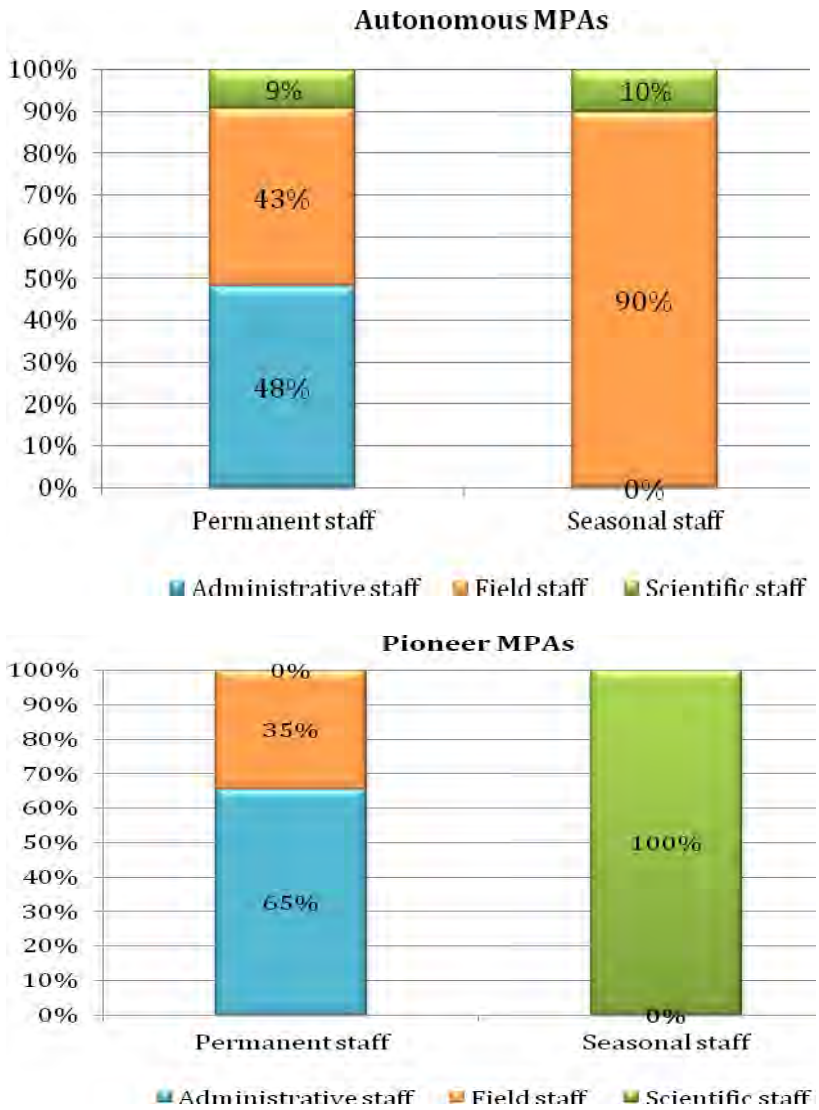
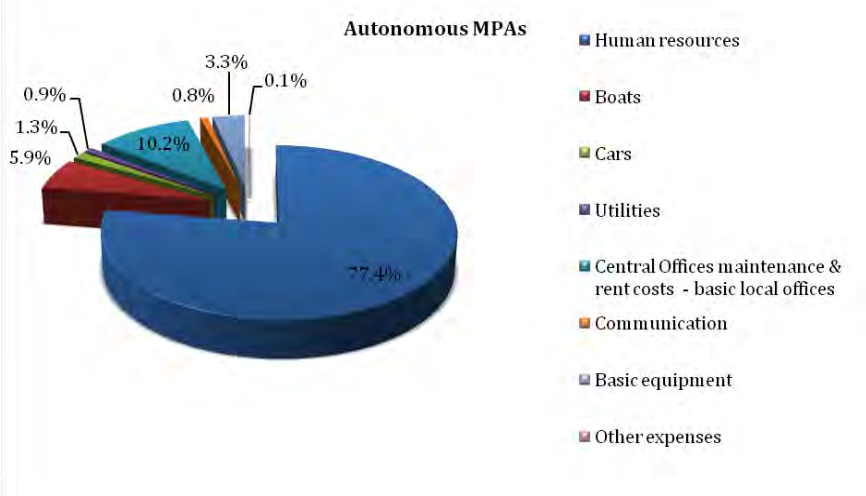


Figure 12: Average breakdown of human resources in the Mediterranean

Figure 13 presents the breakdown of operating costs.



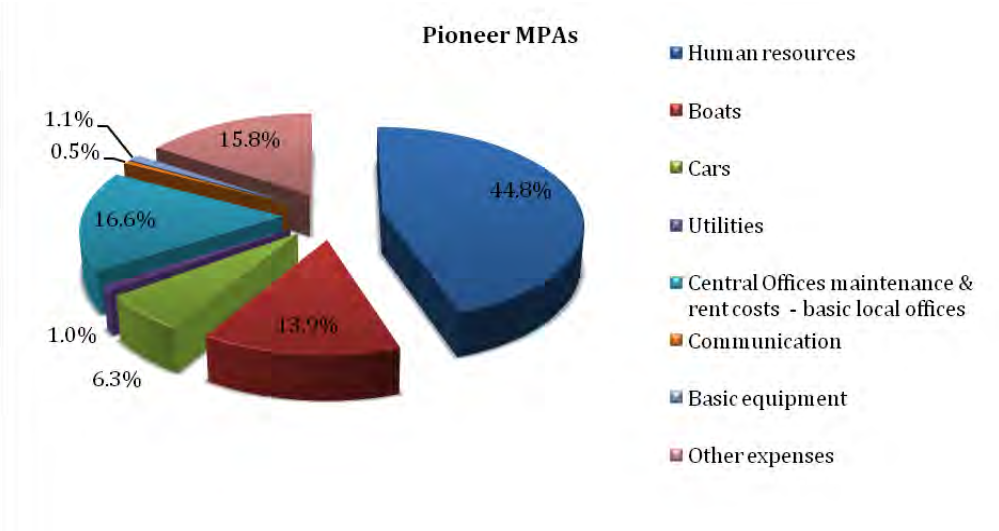
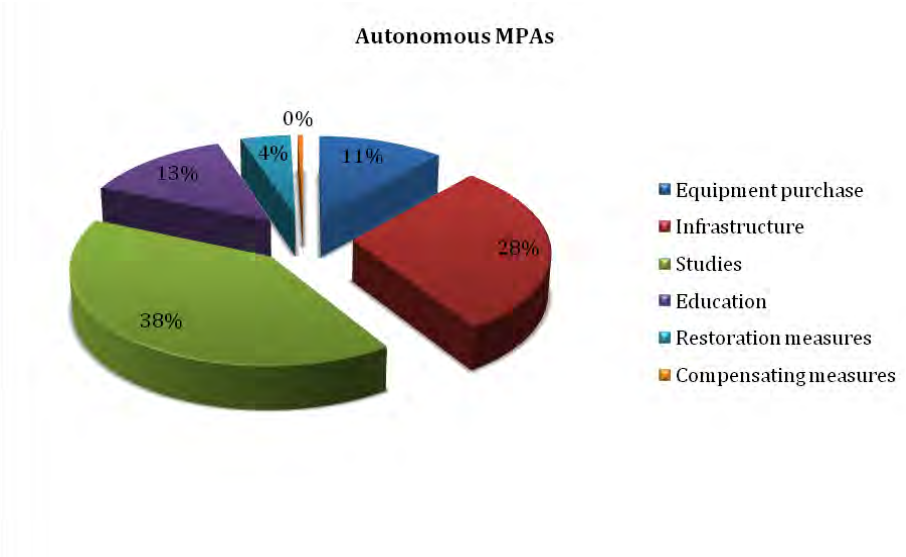


Figure 13: Distribution of staff and non-staff operating costs

Non-staff expenses mostly revolve around fuel and the maintenance of vehicles and boats (7% - €20,292 per year on average), and local office rent and maintenance (10% - €20,404 per year on average).

b) Long-term investments

Investments are mostly made for the development and updating of scientific studies (38%), infrastructure outlays (28%) (office, buoy) and equipment purchase (boats, cars, scuba diving equipment) (11%) (Figure 14). Pioneer MPAs have lower investments for infrastructure. On the contrary, equipment represents a larger investment since this is needed to perform the scientific and monitoring studies essential for definition of MPA objectives and management schemes.



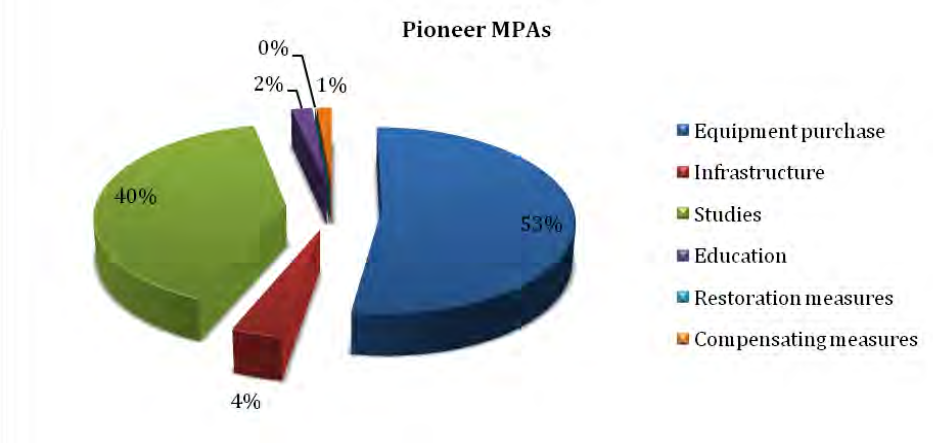


Figure 14: Distribution of long-term investments for MPAs

3.2 Needs for optimal management of MPAs

3.2.1 Operating resources needs for optimal management

Resources needs were evaluated during the survey by managers who identified the level of human, material and investment resources needed to achieve effective management of their MPA. Human resources consumption is expressed in full time equivalent[11] (FTE). Reported needs for effective management are presented in Tables 6 and 7.

Region	Permanent administrative staff (FTE)	Permanent field staff (FTE)	Permanent scientific staff (FTE)
Mediterranean MPAs	**4(14)**	**5(14)**	**2(14)**
EU MPAs	**4(12)**	**5(12)**	**2(12)**
Non-EU MPAs	**8(2)**	**6(2)**	**3(2)**

Region	Seasonal administrative staff (FTE)	Seasonal field staff (FTE)	Seasonal scientific staff (FTE)
Mediterranean MPAs	**0.01(14)**	**1.60(14)**	**0.23(14)**
EU MPAs	**0.01(12)**	**1.81(12)**	**0.21(12)**
Non-EU MPAs	**0.00(2)**	**0.33(2)**	**0.33(2)**

Table 6: Expressed human resources annual needs for optimal management

11 - An FTE of 1.00 is equivalent to a full time worker, while an FTE of 0.5 means half-time work during the period of employment (here, a year)

With regard to human resources, 86% of MPAs managers declared that current MPA funding does not cover 100% of their needs to bring management up to an effective level.

On average, 60% of expressed needs in terms of permanent human resources required annually to effectively manage MPAs are covered (67% for EU MPAs and 33% for non-EU MPAs). Regarding seasonal staff, 67% of the needs are covered for EU MPAs and 0% for non-EU MPAs.

Region	Boats	Cars	Offices
Mediterranean	**3(14)**	**2(14)**	**2(14)**
EU MPAs	**3(12)**	**2(12)**	**2(12)**
Non-EU MPAs	**1(2)**	**1(2)**	**3(2)**

Table 7: Expressed non-staff annual needs for optimal management

87% of non-staff resources needs are covered required to effectively manage MPAs:

- 87% of needs related to boats are covered (86% for EU MPAs and 0% for non EU MPAs)
- 1% of needs related to cars are covered (1% for EU MPAs and 0% for non EU MPAs)
- 85% of needs related to offices are covered (86% for EU MPAs and 20% for non EU MPAs).

In conclusion, human resources and non-staff needs for effective management are better met for EU MPAs.

3.2.2 Predicting variation in resource needs

Evidence from previous studies has shown that the extent and magnitude of financing needs depend on the nature of the Protected Areas (marine or terrestrial), its conservation category and its size (Lopez *et al.*, 2006). Other factors, such as the size of the population concerned by the MPA, may influence the level of financing needs. In addition in this case, the needs were expressed by managers themselves and not based on external assessment. While this provides an ad hoc assessment, this may have created some bias depending on the manager, their experience, the geographical situation of the MPA and the expectations for further development of the MPA.

As human resources represent almost ¾ of current operating costs (see Section 3.1.2.) and are a restricting factor for implementation of the principal activities (control, knowledge production etc.), potential predictors affecting human resource consumption were considered.

Through a sensitivity analysis, MPA marine surface area was identified as the main factor affecting the consumption of human resources. For this reason, the study focuses on the impact of the marine surface area on operating and investments costs. For resources presenting a low correlation with the MPA marine surface, the Olympic

2012 FINDINGS ON MPA SIZE

There is a very diverse range of sizes for the marine part of MPAs: the smallest covers 0.003 km² (Akhziv National Park in Israel) and the largest (excluding the Pelagos Sanctuary for marine mammals) covers about 4,000 km² (Gulf of Lion Marine Park in France). But 66% of MPAs are no bigger than 50 km² (Gabrié *et al.*, 2012)

average principle was applied[12]. Levels of resource consumption would thus be defined based on the marine size variation.

Permanent field staff, permanent scientific staff, seasonal administrative staff and offices were identified as operating resources affected by the MPA marine surface area.

The same sensitivity analysis was also conducted regarding expressed investments with regard to marine surface area. Training, an investment closely related to human resources, was identified as having the highest correlation with marine surface area. Regular ecological monitoring was also identified as presenting a high correlation with marine surface area as it aims for complete MPA coverage. For other investments, presenting a low correlation with MPAs marine surface area, the Olympic average principle was applied.

Table 8 and Table 9 present estimated operating and investments costs based on the previous observations.

Resources needed for optimal management		Calculation	Estimated values (FTE or PPP-adjusted values)
Staff resources			
Permanent staff	Administrative staff	Olympic average	4.2 FTE/year
	Field staff	Olympic average	4.54 FTE/year
	Scientific staff	Olympic average	1.94 FTE/year
Seasonal staff	Administrative staff	Olympic average	0 FTE/year
	Field staff	f(marine surface)	<5km^2: 0.22 FTE/year 5-30 km^2: 0.54 FTE/year 30-70 km^2: 1.83 FTE/year >70 km^2: 5.31 FTE/year
	Scientific staff	f(marine surface)	< 5km^2: 0.39 FTE/year 5-30 km^2: 0.39 FTE/year 30-70 km^2: 0.39 FTE/year > 70 km^2: 0.83 FTE/year
Non-staff resources			
Boat maintenance and fuel		f(marine surface)	< 5km^2: €7,326/boat/year 5-30 km^2: €21,225/boat/year 30-70 km^2: €21,225/boat/year > 70 km^2: €29,088/boat/year
Car maintenance and fuel		f(marine surface)	< 5km^2: €771/car/year 5-30 km^2: €6,939/car/year 30-70 km^2: 6,939/car/year > 70 km^2: €9,262/car/year
Office maintenance		Olympic average	€20,513/office/year
Communication		Olympic average	€5,636/year
Basic equipment		Olympic average	€8 - 94/year

Table 8: Annual estimated operating costs for optimal MPA management

12 - Olympic averages eliminate the high and low observations and then average all remaining observations. Olympic averages should reduce bias due to managers' too low or too high expectations.

Resources needed for optimal management	PPP-adjusted values	Frequency
Equipment purchase		
Boat purchase	< 5km^2: 2 boats 5-30 km^2: 2 boats 30-70 km^2: 2 boats > 70 km^2: 5 boats	Every 6 years
Car purchase	< 5km^2: 1 car 5-30 km^2: 2 cars 30-70 km^2: 2 cars > 70 km^2: 5 cars	Every 10 years
Scuba-diving equipment purchase	€7,906	Annually
Infrastructure		
Local offices	2 offices	Once
Visitor center		
Demarcation buoys	€39,715	Every 7 years
Hiking paths	€18,876	Once
Studies		
Scientific studies	€55,313	Annually
Socio-economic assessment	€16,521	Every 3 years
Regular ecological monitoring	€28,470	Every 2 years
Management plan	€60,478	Every 5 years
Business plan	€41,219	Every 7 years
Education		
Conference/meeting	€19,454	Annually
Exhibits	€20,899	Annually
Training	€10,388	Annually
Measures		
Restoration	€65,155	Annually
Compensating measures	€21,916	Once

Table 9: Estimated investments for optimal MPA management

3.2.3 Financing needs for optimal management

MPA financing needs for optimal management were estimated by converting expressed needs for resources in monetary terms and by using unit costs (salaries, boats price, etc.) reported by managers.

The total costs per unit area of effectively managed MPAs greatly fluctuates depending on MPA location, with the sum of current expenditure plus estimated shortfall ranging from €933 per km^2 per year to nearly €79,327 per km^2 per year, with an average of €25,784 per km^2 per year (median, €10,729 per km^2 per year) (Table 10).

The highest operating needs per km^2 for effective management are observed for very small MPAs: the five MPAs with the highest operating needs per km^2 are the five smallest MPAs of the sample.

Region	Annual operating needs for effective management (in euros)	Annual operating needs for effective management (in euros per km^2)
Mediterranean MPAs	448,411(13)	25,784(13)
EU MPAs	503,272(11)	23,768(11)
Non-EU MPAs	23,768(2)	36,871(2)

Table 10: Average financing operating needs for optimal management

Furthermore, the financing gap for these MPAs was assessed and it was found that current income meets around 69% of the estimated total operating expenses required annually (median 62%) (Table 11).

Region	Annual current funding (in euros per km²)	Annual operating needs for an effective management (in euros per km²)	Percentage of financing needs covered by current incomes
Mediterranean MPAs	17,948(13)	25,784(13)	69%
EU MPAs	17,816(11)	23,768(11)	74%
Non-EU MPAs	18,676(2)	36,871(2)	40%

Table 11: Financing gaps for optimal management

3.3 Costs of MPA creation

While the operating costs for managing MPAs have been documented in past studies, there have been very few studies that aim to quantify the cost of establishing MPAs. Using information gathered from a representative sample of MPAs worldwide, McCrea-Strub *et al.* (2011) presents the first attempt to identify and describe the various costs of MPA creation. He developed models to estimate MPA total establishment cost taking into account the time spent in the establishment phase (in years) and MPA size (in km²) as potential predictors of establishment costs.

Here, the total costs for MPA establishment were explored looking at past investments associated with specific creation activities. Potential predictors of total establishment costs were thus explored, including, most significantly, the duration of the establishment phase and the size of the MPA.

As stated by McCrea-Strub *et al.* (2011), the quantification of financial costs for a group of individual MPAs in a non-standardised environment should be backed by a framework identifying creation phase activities as "*initial establishment costs*". In the present study, the FFEM template previously mentioned was used to support the creation costs analysis.

Theoretically, the creation phase begins with the idea that a particular location deserves protection, and ends at official designation of the MPA (FFEM, 2010). To ensure a limited loss of financial records over time due to limited institutional memory (McCrea-Strub *et al.*, 2011), the analysis of creation cost here focused on MPAs assumed to have recently left their creation phase. Under the FFEM template, these MPAs are known as "pioneer" MPAs.

Pioneer phase managers were asked to provide information on the costs of activities in the creation phase: identification of zones of ecological interest, identification of stakeholders, etc. The total costs of activities in the "creation" phase can thus be considered as a good approximation of the costs for the creation of an MPA. They include the costs associated with project proposal, development of a legal framework for designation, development of a management plan, outreach to the local community and stakeholder groups, community, ecological and socio-economic research, management and enforcement training, and infrastructure (including buildings, equipment, and site delineation).

Costs associated with these creation activities were reported by MPAs managers. Results are presented in table 12 below.

Values converted into Euros		PPP-adjusted values	
Average total creation costs (in euros)	Average total creation costs (in euros per km^2)	Average total creation costs (in euros)	Average total creation costs (in euros per km^2)
34 433 (4)	119 (4)	42 646 (4)	188 (4)

Table 12: Average creation costs for sampled MPAs

For the studied MPAs, **estimated creation costs ranged from €29,930 to €50,075 in total (PPP-adjusted values) (median, €45,290)**. These values correspond to complete implementation of all creation activities listed above.

The average total cost of creation of a Mediterranean MPA is €42,600.

Estimated creation costs presents a high correlation with the starting date of the MPA creation project (correlation coefficient, r=-0,80): the longer the activities, the higher the investment costs.

Conversely, a low correlation was found between the costs for MPAs creation and the size of the MPAs (correlation coefficient, r= -0.34). These results, though insufficiently backed by a very small sample, nevertheless confirm the initial choice not to use the McCrea-Strub equation for creation cost estimates.

Furthermore, other interesting predictors have been identified as part of the survey. For instance the preexistence of a terrestrial protected area before the MPA can influence the level of funding necessary to establish a marine area as several activities would have been already implemented or launched in the context of creating the terrestrial PA (management body creation, stakeholder participation process, etc.).

4 RESOURCE MOBILISATION AT THE NATIONAL LEVEL FOR MARINE PROTECTED AREAS IN THE MEDITERRANEAN REGION

KEY POINTS:

There is strong commitment from the international community in investing in MPAs. The findings show strong commitment from the international community to protect marine ecosystems in the Mediterranean region. Over the period 2010-2014, the region received financial support amounting to €37,193,373 channelled through bilateral Official Development Assistance (€7,496,524), the GEF (€5,746,120) and the EU LIFE programs (€23,950,729).

International cooperation focused on key thematic areas for Coastal and Marine Protected Areas. Recipient countries used international financial aid to cover some key thematic domains, such as the development of a knowledge base and scientific surveys, implementation of good practices and standards of effective management, participation and empowerment of local stakeholders for cooperation and sustainable use, organisation of training and capacity building, and, finally, implementation of financial strategies and institutional changes for the integration of Marine Protected Areas into national policy.

Financial resources from international cooperation are a useful instrument for raising additional funding from central governments, NGOs, and the private sector. In the Mediterranean region, co-funding from governments amounted to €36m over the period 2010–2014. National contributions supplementing international grants demonstrate strong commitment from recipient countries, as they have to be integrated into national accounts.

International financial resources triggered national strategies for a Marine Protected Areas network. International financial flows have triggered national strategies for the creation and enhancement of a Marine Protected Areas network, including the marine Natura 2000 network in the case of EU countries. They have provided financial support for the first stages of development of Marine Protected Areas. However, more effort is needed to consolidate the impetus to upgrade MPAs to the autonomous phase.

There is a strong variability in financial support from international cooperation for Marine Protected Areas. The financial resources devoted to Marine Protected Areas are committed on a project basis and within the program cycle of multilateral donors. Once a project is over, the flow of financial resources stops. This situation may be a source of financial vulnerability for countries that are highly dependent on international cooperation for Marine Protected Areas. This is mainly the case for the Southern countries of the Mediterranean region.

National budgets are fairly constant over the study period and essential for the operating activities of Marine Protected Areas. The national expenditures for EU countries devoted to Marine Protected Areas amounted to €120,735,331 over the period 2012-2014. France, Spain, Italy and Croatia account for the largest share of total national expenditures. For non-EU countries, total national expenditures amounted to €2,647,253 over the period 2012-2014. The central budget is mainly devoted to the functioning or

operating resources whose activities support MPA management programs, mainly allocated for staff salaries. Another part of the central budget is devoted to key activities such as inspections, monitoring, specific scientific studies, and zoning, among others. There is no transfer of financial resources to the MPA structures, but these allocations are meant to mitigate the financial burden on MPAs.

Institutional weaknesses and political instabilities, especially in the South of the Mediterranean accentuate the financial vulnerability of Marine Protected Areas. Despite comprehensive institutional organisation, some countries are confronted by a lack of coordination between entities (central agencies responsible for MPAs), which in turn affects the permanent and consistent flow of resources. For other countries, institutional weaknesses complicate the implementation of strategic alliances with local authorities and stakeholders, which are a necessary condition for effective use of available financial resources. The absence of local key stakeholders for effective management of MPA projects resulted in high dependency on external consultants and NGOs without empowering local stakeholders in the sustainability of MPAs.

The global financial crisis and budget restrictions in donor countries affect the availability of financial resources. This is mainly the case for bilateral ODA for Marine Protected Areas which substantially decreased.

This chapter describes regional trends in both international financing and national expenditures for Coastal and Marine Protected Areas in the Mediterranean. Based on an assessment of the international database and financial country profiles, this chapter estimates the level and structure of resources mobilised at the national level along with the projects involved.

4.1 Regional trends in international funding for Marine Protected Areas over the period 2010-2014

The comparison between the three sources of international financing shows different trends over the period 2010-2014. Details of the financial data are presented in Appendix 3. The findings of the assessment of financial resources supporting Coastal and Marine Protected Areas showed strong commitment from the international community to protect marine ecosystems in the Mediterranean region. Over the period of 2010-2014, the region received financial support amounting to €37,193,373, channeled through bilateral Official Development Assistance (€7,496,524), the GEF (€5,746,120), the EU LIFE programs (€23,950,729). Financing from international NGOs consists of investments for regional projects in the Mediterranean and financed by national donors and private foundations (see Box below). For easier reading, financial resources devoted to regional projects in ODA financial data have been included.

In general terms, the curve denoting the bilateral ODA financial resources decreases over the period studied. Indeed, this trend follows the planning framework of various projects that come to the end during this period.

Financing from the GEF trust fund is connected to the programming cycle where the financial resources are committed, but not necessarily disbursed, during the period surveyed here.

EU financial resources show an ascending curve explained by the number of projects undertaken in marine N2000 sites in the region.

REGIONAL PROJECTS IN THE MEDITERRANEAN

- The project "Working together for more effective Marine Protected Areas in the Mediterranean" (MedPAN South Project – 2008-2012) was a collaborative project aimed at improving the management effectiveness of Marine Protected Areas (MPAs) in the South and East of the Mediterranean and supporting the creation of new ones, with financial support from the MAVA Foundation, the French Global Environmental Facility (FFEM) and EC/UNEP. Further information: http://mediterranean.panda.org/about/marine/marine_protected_area/the_medpan_south_project/
- The "Regional Project for the Development of a Mediterranean Marine and Coastal Protected Areas (MPAs) Network through the boosting of MPA Creation and Management" (MedMPAnet Project) (2010-2015) consists of enhancing effective conservation of regionally important coastal and marine biodiversity, through the creation of an ecologically coherent MPA network in the Mediterranean region, as required by Barcelona Convention's Protocol related to Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol), with financial support from European Commission, Spanish cooperation (AECID), and French cooperation (FFEM).
  Further information: http://www.rac-spa.org/medmpanet
- WWF's project "Sustainable economic activities in Mediterranean Marine Protected Areas" (Sea-Med Project) addresses fisheries and tourism management through a stakeholder participatory approach, to demonstrate the value of MPAs for marine resource management and livelihood generation and to contribute to creation of exemplary models of Integrated Coastal Management Zones, with the financial support of UNEP, FFEM, MAVA Foundation, and the EU. Further information: http://mediterranean.panda.org/about/marine/marine_protected_area/the_seamed_project/
- MEDPAN (Network of Marine Protected Area Managers in the Mediterranean) has financed specific projects over the period 2012-2015 within the framework of WWF Mediterranean and RAC-ASP with financial support from FFEM, MAVA Foundation and the EU. For further information: http://www.medpan.org/en/call-for-small-projects;jsessionid=57690347639B03930C4AB8036FAA0A83

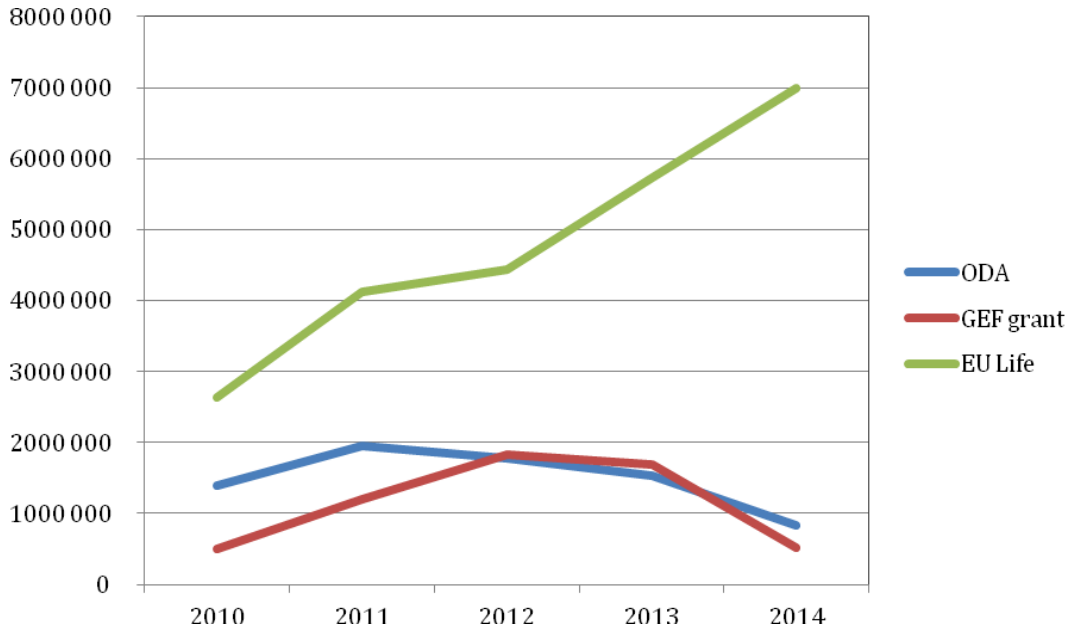


Figure 15: Resource mobilisation from international cooperation over the period 2010-2014

4.1.1 Official Development Assistance

Total biodiversity-related bilateral ODA amounted to almost €11m for 2010-2014, from which 68% was devoted to Coastal and Marine Protected Areas/activities, amounting to almost €7.5m. Only disbursements allocated to the recipient countries were taken into consideration, as they represent the current annual expenditures. The recipient countries are Albania, Algeria, Croatia, Egypt, Lebanon, Morocco, Tunisia and Turkey. A small set of donor countries such as France, the Principality of Monaco and Spain are the primary contributors in the Mediterranean region along with some private foundations (MAVA Foundation, Albert II Foundation).

Table 13 below indicates selected types of projects, donor country, and cooperation agency per country. It provides an indication of the thematic issues connected with bilateral cooperation.

Country	Project closely related to MPAs	Donor DAC country (Agency name)	Recipient - Channel
Albania	POSIDONIA OCEANICA ECOSYSTEM PROTECTION IN ALBANIA	Italy (DGCS)	Government and NGOs
Algeria	*DEVELOPPEMENT LITTORAL ALGERIEN*	France (FFEM)	Government
Croatia	Local Cooperation Fund (LCF) in Croatia. Biodiversity Protection in Croatian Kornati Archipelago.	Finland (MFA)	Government
Egypt	ASSISTING IN THE ECOLOGICAL PRESERVATION OF THE GOLF EL KEBIR NATIONAL PARK AND PROMOTING SUSTAINABLE ECO-TOURISM	Germany (BMZ)	Government
Lebanon	PROJECT SUPPORTING NATURAL RESOURCES MANAGEMENT	France (AFD)	Government
Morocco	MARINE TURTLE CONSERVATION FUND	USA (Interior)	Government and NGOs

Tunisia	Project 1: National parks (Natural) management	Spain (AG)	Government
	Project 2: La Galite project (creation of a Coastal and Marine Protected Area)	France (FFEM)	Government
	Project 3: Support for the creation and management of the Tabarka Cap Negro MPA aiming to develop recreational diving and preserve underwater landscapes. France is the donor country.	The Principality of Monaco	Government
	Project 4: Promotion of ecosystem-based management of fisheries and other uses of the marine environment around a network of protected marine and coastal areas north of Tunisia – France is the donor country.	France (FFEM)	Government
Turkey	DOGA DERNEGI - INVENTORY OF MARINE IMPORTANT BIRD AREAS	EU Institutions	Government

Table 13: Projects funded by bilateral Official Development Assistance for the period 2010-2014

The Bilateral ODA devoted to Coastal and Marine Protected Areas decreased over the period 2012-2014 for Mediterranean countries. ODA financial support is allocated on a project basis. Once a project is over, the flow of financial resources stops. This trend does not correspond to the worldwide trend for total biodiversity-related aid over the last ten years (DAC-OECD Stats, 2014), where ODA financial resources have increased due the rising number of projects with multiple environmental objectives, where biodiversity conservation is a secondary objective.

Figure 16: Bilateral ODA trend over 2012-2014

In general, biodiversity-related aid from international cooperation (ODA) is intended to develop synergies between biodiversity and other environmental concerns. Climate change mitigation and climate change adaptation could potentially channel ODA financial resources to Marine Protected Areas.

ODA financial support is driven by a country's ability to propose projects that give priority to Marine Protected Areas, which implies strong cooperation with key players in project design and implementation.

Countries such as Tunisia and Algeria, where ODA has been maintained over the period studied, take advantage of their strong historical relationship with France. Such strong links, and interest from donor countries in MPAs in the region, seem to be a condition for ensuring the continued flow of ODA resources.

Recipient countries experienced a reduction in ODA financing due the global financial crisis. However, Marine Protected Areas remain a special area of concern, in particular when it comes to strengthening institutional capability to maintain a sufficient flow of financial resources to upgrade MPAs to the autonomous phase.

4.1.2 The Global Environmental Facility

The GEF is the institutional structure that operates the financial mechanism for implementation of the Convention on Biological Diversity (CBD). GEF resources are allocated for a period of four years. The GEF's 5th financial cycle ran from July 2010 to June 2014. During this four-year cycle, the GEF allocated €805,052,480 to projects dealing with biodiversity. Of this, €396,617,441 was allocated to Protected Areas (49% of total biodiversity funding).

For the purpose of the present study, financial resources provided by the GEF's 5th financial cycle (2010–2014) were reviewed, taking into account the commitments for the timeframe of the GEF projects. From the observation of the financial data from international cooperation, there is a lead time between the agreed commitments and the effective use of the available international financial resources. There may be a fixed time window before a country receives initial disbursements, which makes the assessment of the effective level of investments per year difficult to assess over the period studied.

Country	GEF allocation for MPAs (in euros)	Co-funding associated with the GEF grant (in euros)	Total GEF projects in the country (in euros)	% of the total from GEF trust fund
Albania	770,416	1,563,134	1,401,346	55%
Algeria			1,751,683	0%
Croatia	4,016,706	14,029,681	4,195,118	96%
Egypt	2,932,447	11,191,306	5,198,555	56%
Lebanon	770,416	989,376	1,711,135	45%
Montenegro	1,540,832	4,997,973	1,711,135	90%
Tunisia			178,412	0%
Turkey	1,865,218	3,243,857	4,982,091	37%
Total	11,896,034	36,015,327	21,129,474	

Table 14: GEF allocations to Marine Protected Areas in the Mediterranean for 2008-2014

(Source: GEF projects database)

The GEF trust fund allocated almost €12M to projects related to Coastal and Marine Protected Areas in these countries, representing 25% of the total value of GEF projects in biodiversity-related aid. These resources are associated with €36M of co-funding, mainly from governments. The duration of the projects generally covered four years of

implementation. It is worth noting that Israel, Libya, Morocco, Syria, and Tunisia have not recorded any financial assistance from the GEF trust fund.

The total allocation from the GEF trust fund for biodiversity-related issues amounted to €21M for 2010-2014, from which Croatia, Montenegro, Egypt, and Albania had the largest share of their GEF grant devoted to Marine Protected Areas, representing 96%, 90%, 56%, and 55% of total GEF allocations in these countries respectively.

The GEF grant is a useful instrument for raising additional financial resources for Marine Protected Areas. The share of governmental expenditures is quite high. The government share amounted to €30,847,052, representing almost 75% of the total value of the GEF projects. Croatia and Egypt recorded the highest share of co-funding. The contributions are provided in kind or as grants, and they should be accounted for in the national budget. The amount of co-funding depends on the size of the project and on the type of activities to be implemented. The private sector contribution amounted to €162,193.

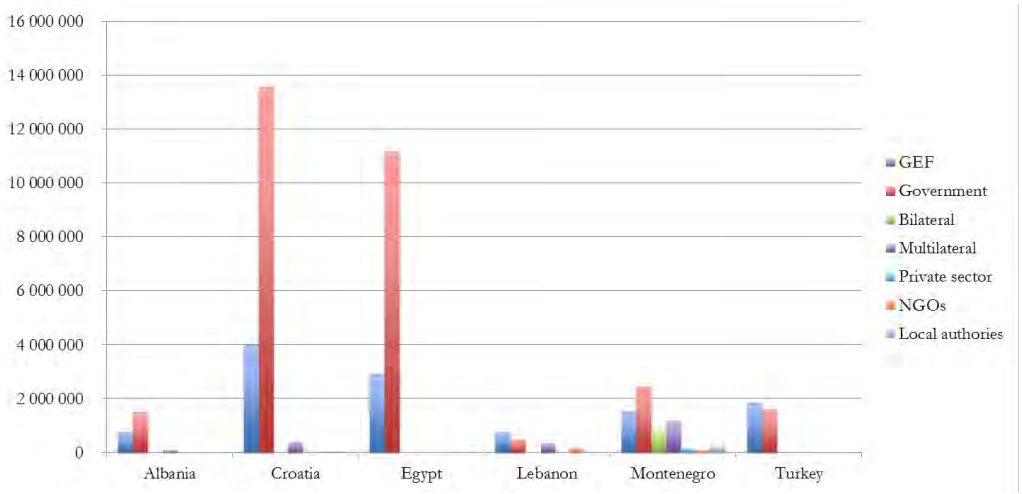


Figure 17: GEF Projects and the structure of co-funding

Table 15 below presents projects funded from 2008-2014 The types of co-financing and the share of each donation provided by governments, GEF agencies, and private NGOs are stated.

Country	2008/2009	2010	2012	Co-funding (in euros)	Share of co-funding
Albania		Improving coverage and effective management of MPAs		**Ministry of Env.:**1,877,500; **UNDP:** 100,000	95% - Government (Ministry of Env.); 5% - UNDP
Croatia			Strengthening institutional and financial sustainability of NPA system	**Ministry of Env.:** In kind: 40,000; Grant: 16,700,000. **Protected Area Institutions** (In-kind): 40,000; **UNDP:** Grant:	96% - Government; 0.2% - PA institution; 2,8% - UNDP; 0.1% - Private NGO.

				500,000. **WWF:** Grant: 20,000	
Egypt	Establishment of a sustainable Protected Area financing system, with associated management structures, systems and capacities needed to ensure the effective use of generated revenues for priority biodiversity conservation needs			**Ministry of Env.:** 13,800,000	100% - Government
Lebanon		Market Policy and Legislative Development for Mainstreaming the Sustainable Management of Marine and Coastal Ecosystems in Lebanon		**Ministry of Env.:** In-kind: 390,000; **UNEP:** In-kind: 430,000; **IUCN:** In-kind: 150,000; **WWF:** In-kind: 50,000	48% - Government; 35% - UNEP; 17% - Private NGOs
Montenegro (1)		Catalysing financial sustainability of the PA system		**Ministry of Env**.: In-kind/grant: 2,050,000; **Bilateral cooperation**: 400,000. **Multilateral cooperation:** 450,000; **Private sector:** 100,000 **NGOs:** 50,000 **Local municipalities:** 50,000	66% - Government; 13% Bilateral coop.; 15% Multilateral coop.; 3% Private sector; 2% NGOs; 2% Local municipalities
Montenegro (2)	Strengthening the sustainability of the Protected Areas System of the Republic			**Ministry of Env.:** (in-kind+grant): 980,000. **Bilateral coop.** (All,Lux,Neth): 647,000; **Multilateral coop.:** 1,030,000;	32% - Government; 21% Bilateral coop.; 34% Multilateral coop.; 3% Private sector; 2% NGOs; 8% Local municipalities

	of Montenegro			**Private sector:** 100,000 **NGOs:** 56,000 **Local Municipality:** 250,000	
Turkey	Strengthening Protected Area Network of Turkey - Catalyzing Sustainability of Marine and Coastal Protected Areas			**Ministry of Env.:** grant: 2,000,000 In-kind: 2,000,000	100% - Government

Table 15: GEF projects in the Mediterranean over the period 2008-2014

The GEF trust fund has triggered national strategies for the creation and enhancement of a Marine Protected Areas network. They have provided financial support for the first stages of development of Marine Protected Areas. However, more effort is needed to consolidate the impetus to upgrade MPAs to the autonomous phase.

The trend observed in GEF allocations is explained by the GEF financial planning cycle, which is performed in one year for projects that last an average of 4 years. In the absence of real data for GEF disbursements, the total budget was divided by the duration of the project (***Total amount of resources / N years of project implementation***).

The 5th cycle has ended and discussions are underway with recipient countries to secure financial resources for the 6th cycle (2014-2018).

The 6th cycle, also called the sixth replenishment period, has agreed to allocate 4.433bn USD (agreed commitment made in Geneva in April 2014), from which biodiversity-related projects get the largest share of financial support. The GEF is expected to tailor these resources to national needs based on the revision of National Biodiversity Strategies and Actions Plans and priorities given by the Strategic Plan for 2010-2020 for the achievement of the Aichi targets.

4.1.3 European financial instruments

Financial allocations for Natura 2000, from the 2007-2013 EU budget, have been estimated at between €550M and €1,150M per year. These estimates are considered a rough approximation as the lack of dedicated Natura 2000 budget indicators makes precise calculation of the EU contribution difficult (Kettunen *et al.,* 2014). However, these figures indicate that EU co-financing in the period 2007-2013 covered only 9-19% of the estimated financing needs of the system.

In the Mediterranean, only the EU LIFE programs were analysed. The total allocation amounted to €37,288,255 for 2009-2018. The allocations are defined on a project basis. 22 projects have been identified, managed in a decentralized way, either by local authorities, scientific institutions or by NGOs, as shown in the table below. EU LIFE requires also a portion of co-financing.

Country	Name of the project	Coordinator	EU funding (in euros)	Total cost of the project (in euros)	Duration
Cyprus	OROKLINI - Restoration and management of Oroklini Lake SPA (CY6000010) in Cyprus	National authority Game Fund	398,535	767,070	2012-2014
France	LIFE+ ENVOLL - Networking nesting habitats along the French Mediterranean coastline for the Conservation of Colonial Charadriiformes	*Association des Amis des Marais du Vigueirat (AMV)*	1,686,129	3,375,360	2013-2018
	LIFE+ MC Salt – *programme de gestion environnementale et de conservation de marais*	*Parc régional italien du delta du Po Emilia-Romagna*	2,395,663	5,000,000	2011-2016
	Life SUBLIMO- Biodiversity Survey of Fish Post-Larvae in the Western Mediterranean Sea	*Centre National de la Recherche Scientifique* (University of Perpignan)	964,252	1,947,590	2011-2015
	LAG Nature - Creating an experimental and demonstrative network of lagoon and dune Natura 2000 sites on the mediterranean coastline of Languedoc-Roussillon	*Conservatoire des Espaces Naturels du Languedoc Rousillon*	1,100,915	2,201,834	2009-2013
Italy	LIFE AGREE – coAstal laGoon long teRm managEmEnt	*Provincia di Ferrara*	2,190,900	4,381,801	2014-2019
	TARTALIFE - Reduction of sea turtle mortality in commercial fisheries	*Consiglio Nazionale delle Ricerche - Istituto di Scienze Marine*	3,171,000	4,228,000	2013-2018
	LIFE RES MARIS - Recovering Endangered habitatS in the Capo Carbonara MARIne area, Sardinia.	*Amministrazione Provinciale di Cagliari* (Local authority)	121,479	1,510,805	2014-2018
	SOSS DUNES LIFE - Safeguard and management Of South-western Sardinian Dunes - A project for the pilot area of Porto Pino	*Comune di Sant'AnnaArresi* (Local authority)	301,155	602,310	2014-2017
	LIFE WHALESAFE - WHALE protection from Strike by Active cetaceans detection and alarm issue to ships and FErries in pelagos sanctuary	*UniversitadegliStudi di Genova*	923,214	1,847,167	2014-2017
	LIFE-SeResto - Habitat 1150* (Coastal lagoon) recovery by Seagrass RESTOration. A new strategic approach to meet HD & WFD objectives	*Universita di Venezia*	1,172,923	1,563,898	2014-2018
	LIFE Caretta Calabria - LAND-AND-SEA ACTIONS FOR	*Comune di Palazzi*	1,689,461	2,916,834	2013-2017

	CONSERVATION OF Caretta caretta in its most important Italian nesting ground (Ionian Calabria)				
	MC-SALT - Environmental Management and Restoration of Mediterranean Salt Works and Coastal Lagoons	*Ente di Gestione per i Parchi e la Biodiversita* (Reserve-Park authority)	2,395,663	4,949,868	2011-2016
	POSEIDONE - Urgent conservation actions of *Posidonia beds of Northern Latium	*Regione Lazio* (local authority)	542,787	1,339,500	2010-2014
	ZONE UMIDE SIPONTINE - Conservation actions of habitats in the coastal wetlands of SCI Wetlands of Capitanata	*Regione Puglia*	2,365,368	3,181,825	2010-2016
Malta	Life+ Benthic Habitat Research for marine Natura 2000 site designation	Malta Environment Planning Authority	1,306,405	2,612,810	2013-2017
	Project MIGRATE - Conservation Status and potential Sites of Community Interest for Tursiops truncatus and Caretta caretta in Malta	Malta Environment Planning Authority	476,003	964,006	2012-2016
	MALTA SEABIRD PROJECT - Creating an inventory of Marine IBAs for PuffinusYelkouan, Calonectrisdiomedea and Hydrobatespelagicus in Malta	BirdLife Malta (NGO Foundation)	436,982	873,964	2011-2016
Slovenia	SIMARINE-NATURA - Preparatory inventory and activities for the designation of marine IBA and SPA site for Phalacrocorax aristotelis desmarestii in Slovenia	BirdLifeSlovenia (NGO)	284,675	474,458	2011-2015
Spain	Inventory and designation of marine N2000 areas in the Spanish sea	*Fundacion Biodiversité*	7,702,863	15,405,727	2009-2014
	Life PosidoniaAndalucia - Conservation of Posidonia oceanica meadows in Andalusian Mediterranean Sea	Regional authority of Andalucia	2,474,902	3,562,125	2001-2015
	Habitat restoration and management in two coastal lagoons of the Ebro Delta: Alfacada y Tancada	Catalan public corporation *Institut de Recerca i Tecnologia Agroalimentaries* (IRTA)	1,490,084	3,054,703	2010-2015
	LIFE CONHABIT ANDALUCÍA - Preservation and improvement in priority habits on the Andalusian coast	Regional authority of Andalucia	1,592,560	2,654,268	2014-2019

Table 16: Details of LIFE projects

(Source: http://ec.europa.eu/environment/life/project/Projects/ (online consultation March 2015)

As for GEF projects, EU LIFE allocations denote the commitments made over the duration of the projects. The total value of the each project was divided by the duration to get a proxy of annual disbursements.

EU funding instruments represent a significant and increasing source of revenues for Marine Protected Areas. Recipient EU countries allocate these resources to enhancement of the marine N2000 network. In addition to the EU LIFE programs that promote nature conservation, there are other financial instruments that may raise additional financial resources for Marine Protected Areas, such as the European Marine Fisheries Fund.

4.2 Regional trends for national expenditures on Marine Protected Areas over the period 2012-2014

Based on phone call interviews and the questionnaires, a country profile for each country in the study area has been produced, presenting both the method and documents used for the financial assessment of national budgets. The country profile also presents the general institutional framework that influences the flow of the national public budget for Marine Protected Areas. Finally, it presents financial data on resource mobilisation from international cooperation and national public funding over the period 2012-2014.

In order to understand regional trends for funding from national budgets, the sample countries were separated into two groups: EU and non-EU countries.

The national expenditures from EU countries devoted to Marine Protected Areas amounted to €120,735,331 during the period studied. France, Spain, Italy and Croatia account for the largest share of total national expenditures. National expenditures are almost constant over time (there is a slight increase in 2014 accentuated by the scale of the graph below) .

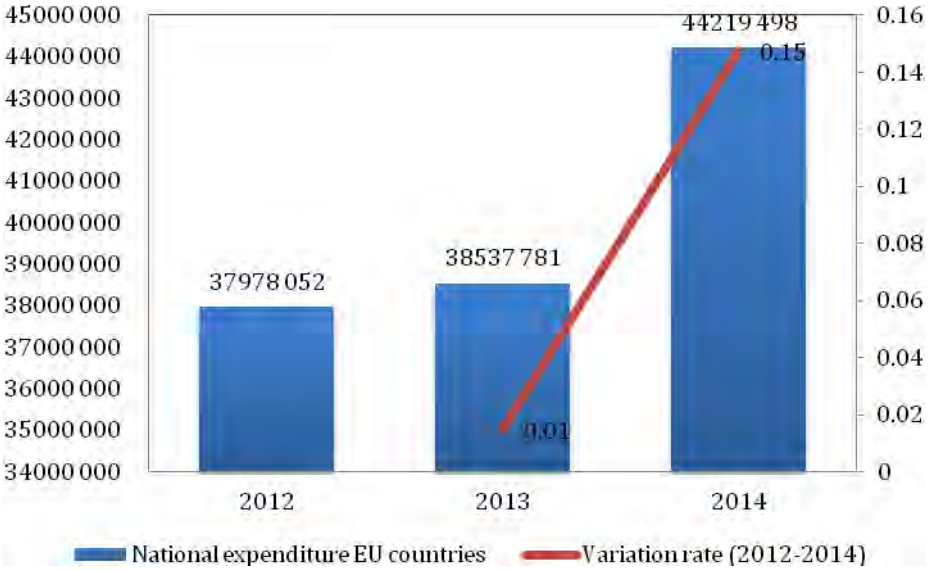


Figure 18: Trend for EU countries national expenditures over the period 2012-2014

For non-EU countries, total national expenditures amounted to €2,647,253 over the period 2012-2014. For this sample, the national budget decreased by 18% in 2013 and increased

by 17% in 2014. The national budget of most of the non-EU countries remains almost constant.

Figure 19: Trend for Non-EU countries national expenditure over the period 2012-2014

Resource mobilisation at the national level consists of both national expenditures and resources from international cooperation. Over the period 2012-2014, resource mobilisation for the Mediterranean region amounted to €148,757,020. International cooperation represents 18% of the total funding, with 82% of funding coming from public budgets.

The financial share of international funding resources and national budgets is shown in figure 20. Five countries out of 14 are very much dependent on international cooperation. This is mainly the case for the Southern countries of the Mediterranean region.

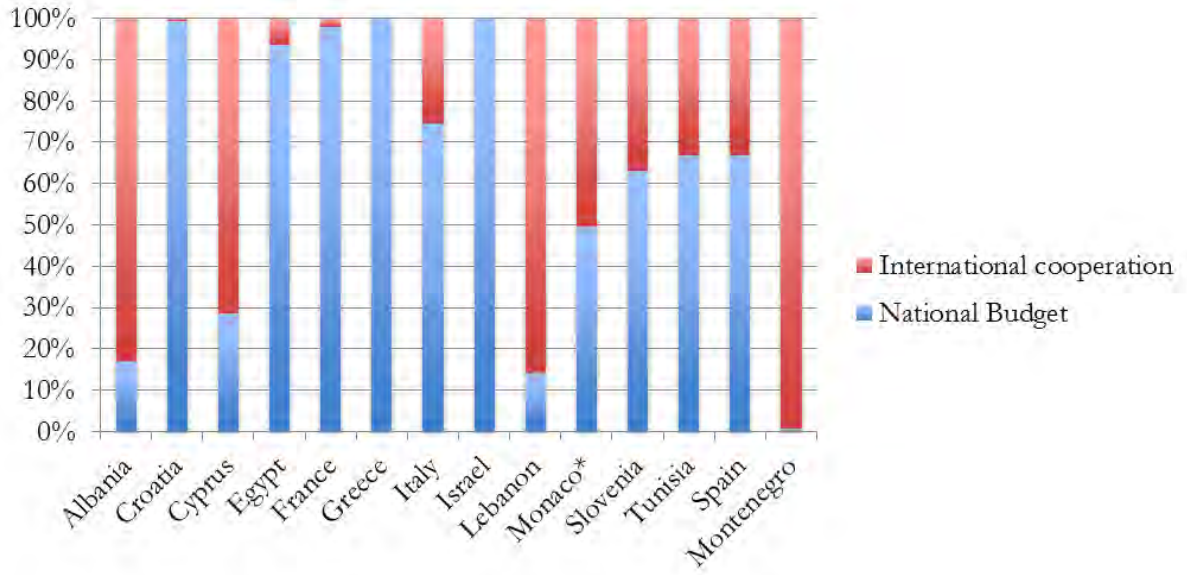


Figure 20: Share of resource mobilisation in the national budget over the period 2012-2014

* Mainly from donations from private sector

For EU Member States, EU funds have played a key role in the creation and consolidation of the N2000 network.

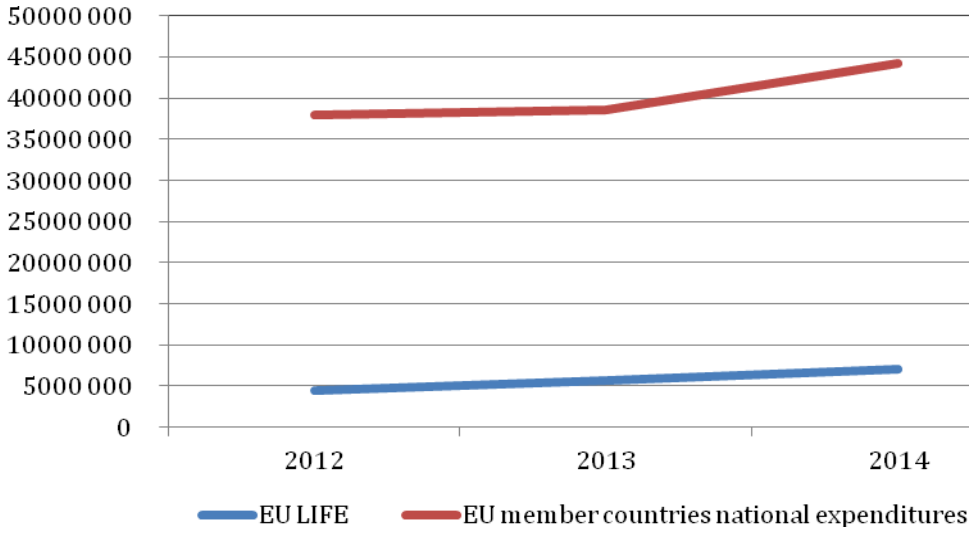


Figure 21: Resource mobilisation for EU countries

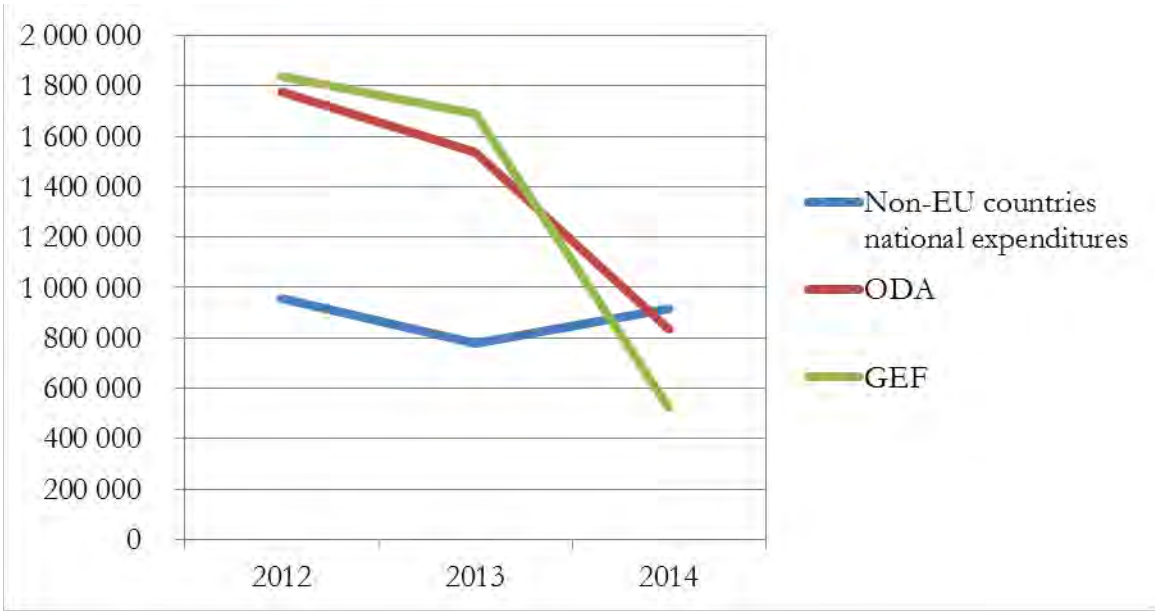


Figure 22: Resource mobilisation for non-EU countries

It is worth noting some limitations in the way this financial data is presented:

- Countries such as Algeria and Turkey did not provide information on their public funding, so these countries were not included in the analysis.
- Marine Protected Areas in Monaco are mainly managed by the Agency for protection of nature. This agency does not receive regular public funding from the State. Its financial resources come from fees paid by the members of the association and private donations; private donations represent 70% of its total budget.

In order to understand the general trend in the national budget of each individual Mediterranean country, a country profile attached to this report can be consulted.

5 FINANCING GAP FOR MPAS IN THE MEDITERRANEAN REGION

KEY POINTS:

The method used here to scrutinize MPA needs for effective management is the first of this kind in the region. It provides financial data on needs for 14 countries in the Mediterranean, and estimates a regional financing gap for 7 non-EU countries – Albania, Monaco, Egypt, Israel, Lebanon, Montenegro and Tunisia – and 7 EU countries – Croatia, Cyprus, France, Greece, Italy, Slovenia and Spain.

As shown by the study, MPAs **are underfunded, contributing in ineffective management**: official data from 17 countries shows that total available resources for existing MPA systems in the region are nearly **€52.8M per year.** But, this need to be compared with the financing needs for effective management of MPAs. Estimates of the effective management needs for national MPA systems, aggregated for 14 countries in the region, show a **financing gap (available funds minus financing needs) for MPAs of €700M per year to simply address effective management activities of existing MPAs.**

Current revenues only cover 8% of financing needs across all Mediterranean MPAs (11% if investment costs are excluded). This value, considered as a minimum for the financing needs of Mediterranean MPAs, is particularly worrying, considering the decrease in current resources for MPAs while the pressures on coastal ecosystems increase due to climate change and higher anthropogenic pressures (tourism, fisheries, wastes, pollution, urbanisation…).

The surface area of MPAs to be created by 2020 in the Mediterranean coastal zone to attain the **Aichi target** has been estimated at around 49,000 km2, representing a **total creation cost of €25M**. **The total financing gap for the ideal management scenario for the 12 countries studied[13] in the Mediterranean amounts to €7.002bn until 2020**. This represents an average value of €132,600 per km² to reach the Aichi target.

The financing gap for this scenario is estimated at **€1.162bn for the non-EU countries in the study (Albania, Egypt, Israel, Monaco and Tunisia)**. This corresponds to the creation of 5,738 km² in the countries studied (compared with 712 km² of current MPAs). The financing gap is estimated to about **€5.839bn for the EU countries of the study (Croatia, Cyprus, France, Greece, Italy, Slovenia, and Spain).** This estimate is for the creation of 34,141 km² (compared with 45,999 km² of current MPAs – excluding the Pelagos sanctuary).

This financing effort to reach the Aichi target is substantial when compared with the current resources directed to MPAs. This financing effort corresponds mainly to the creation of new MPAs that would definitely lead to major benefits for tourism, fisheries and other coastal activities in the medium term. This value seems quite small when it is considered that MPAs are a major contributor to international tourism activities in the Mediterranean. This

13 - Montenegro and Lebanon were excluded from the funding gap analysis due to a lack of information on existing MPA systems.

value (to be invested over 6 years) represents less than **4% of annual revenues from tourism** in the Mediterranean.

5.1 Financing gap for optimal management

Resource mobilisation for the Mediterranean region over the period 2012-2014 was almost €150M. International cooperation represents 18% of total funding and 82% of funding originates from public budgets.

In 2014, total financial resources available for MPAs in the Mediterranean region amounted to €52.8M, in which total national expenditures account for €45.8M and international funding for €7M. Details of these figures are presented in the country profiles prepared as part of the project.

This section first details the financing needs for an optimal management scenario, extrapolating local results from Chapter 2 to both national and regional levels. It then presents the financing gap for this optimal management scenario. The difference between the available resources described in Chapter 3 and the extrapolated financing needs as detailed in Chapter 2 yields the financing gap.

5.1.1 Financing needs for optimal management

a) State-of-the-art regarding evaluation of national financing needs

A literature review was undertaken in order to gather national reports detailing financing needs for effective management of PA systems. In general, such country reports found in the literature were very incomplete and the data source unidentified. Only France, Albania Croatia and Montenegro have undertaken processes to identify the financing needs of national PA systems and, therefore, can attempt calculation of their financing gaps. Most of these reports were directed by the United Nation Environmental Programs and GEF. They are detailed below.

- In a report entitled “Sustainable Financing Review for **Croatia** Protected Areas”, Croatia indicated that in 2009, of the 22.7M HRK (€3.01M) requested by the park public institution, 46% was approved, whilst of the 33.7M HRK (€4.47M) requested in 2008, only 41% was approved. However, it was somewhat difficult to ascertain what the true financing gap is, as many parks allegedly request just what they know they might receive, while others request a far larger budget from the State government in the hope of getting a larger sum (ERM, 2009);
- In 2010, **Albania** identified key qualitative gaps in the PA system in Albania and more specifically marine areas. This analyses did not quantify the financing gap (Kashta, 2010);
- In 2011, **Montenegro**, in an analysis of the economic value of its Protected Areas, concluded there was significant public under-investment in PAs. At €2m a year in total or €1,800/km^2 in 2011, funding to PAs was insufficient to manage the PA network effectively and was less than half of the current financing needs for effective PA management in Montenegro. Public income equated to only around 15% of projected financing needs (UNDP & GEF, 2011). In 2012, Montenegro had only one MPA under consideration. However, Montenegro has engaged in a preparatory process for the proclamation of the first MPA (Katic Island near Petrovac) and for the

establishment of the Platamuni MPA whose borders are on the way to be defined (NBSAPs 2014). The Katic MPA is supposed to have an area of 24.55 km² and the Platamuni MPA of 23.00 km². Other projects could be considered as potential MPAs (personal communication):

- MPA Ratac (near Port of Bar) with a possible area of 6.4 km² over the sea according to Faculty of Science.
- MPA Stari Ulcinj with the possible area of around 6 km².

The overall projected MPAs in Montenegro accounts for about 60 km². But no official position has yet been taken on the issue.

- A report from the Grenelle Environment Forum working group on biodiversity assessed the financing needs for **French** biodiversity as least €700M with an additional €25M for Marine Protected Areas development and €30M for marine Natura 2000 sites. In 2012, the French Ministry of the Environment projected needs for the development of a marine areas protection policy at €100M for 2015 and €495M for 2020 (Mabile, 2013): in the Mediterranean, a survey has been undertaken for the project to create the marine park of Cap Corse. It should provide recommendations on its extent (potentially 6,963 km²), on the management plan and the management body.
- In 2014, **France** conducted a study to determine the needs for its national park management. The analysis mainly focused on human resources needs (CGDD, 2014);

Finally, these reports recognised the need to improve and update their accuracy on the financing needs assessed. Analyses do not take into account the particularities of MPAs and look at all Protected Areas. In the absence of national assessments, optimal financing needs were thus estimated by extrapolating the need identified at the local level. This methodology for assessing needs, based on local surveys, is **the first of this kind to be applied to MPAs in the Mediterranean**.

b) Data used

Local results were extrapolated using the composition of national MPA systems identified in 2012, as presented in Table 17. Importantly, surface area was the criteria used for the extrapolation (as mentioned in the local analysis section). Details of marine surface area are provided in the table below.

Then, the distribution of MPAs by size in the national MPA systems was used. This observed data has been used for the extrapolation of local results to national scale.

2012 FINDINGS ON MPA DIVERSITY

The size range of MPA marine surface area is very wide and goes from the smallest which covers 0.003 km² (Akhziv National Park in Israel) to the largest MPA (excluding the Pelagos marine sanctuary at 87,500 km²) which covers over 4,000 km² (the Gulf of Lions Marine Nature Park in France). Between these two extremes, MPA surface areas are relatively equal in distribution (between 20 and 25 MPAs per size group) when it comes to extreme size groups. The 11-25 km² size groups have the largest number of MPAs (Gabrié *et al.,* 2012).

Country	MPAs	< 5 km²	5-30 km²	30-70 km²	> 70 km²

	(excluding N2000)				
Albania	1	0%	0%	0%	100%
Algeria	2	0%	50%	0%	50%
Bosnia-Herzegovina	0	0%	0%	0%	0%
Cyprus	1	100%	0%	0%	0%
Croatia	10	30%	20%	30%	20%
Egypt	2	0%	50%	0%	50%
Spain	41	22%	42%	8%	28%
France	18	44%	31%	0%	25%
Greece	13	8%	25%	25%	42%
Israel	10	80%	20%	0%	0%
Italy	32	19%	22%	11%	48%
Lebanon	2	100%	0%	0%	0%
Libya	3	0%	0%	50%	50%
Morocco	2	0%	0%	0%	100%
Monaco	2	100%	0%	0%	0%
Malta	6	33%	50%	0%	17%
Montenegro[14]	0	0%	0%	0%	0%
Slovenia	3	100%	0%	0%	0%
Syria	3	0%	50%	50%	0%
Tunisia	3	0%	0%	50%	50%
Turkey	14	0%	0%	33%	67%

Table 17: National MPAs systems composition per size group (in percentage))

(Gabrié *et al.*, 2012)

c) Results

Under the optimal management scenario, the total need for operating costs in the region is over €552M per year (Table 18). The total need for investment reported annually is over €179M (data in PPP-adjusted euros). The table below shows the financing needs detailed for national MPA systems.

14 - The creation of the Montenegrin MPA (Katic) has not been declared yet but the MPA already exists

Country	Annual operating costs (in €/year)	Total annual investment (in €/year)
Albania	476,504	294,002
Algeria	1,488,964	545,112
Bosnia-Herzegovina	-	-
Cyprus	7,847,221	1,979,187
Croatia	9,267,916	2,585,747
Egypt	1,488,964	545,112
Spain	118,529,508	35,921,329
France	65,714,512	19,775,889
Greece	134,036,122	44,330,918
Israel	9,872,142	2,481,406
Italy	167,208,983	59,636,346
Lebanon	1,961,805	494,797
Libya	2,388,396	817,668
Morocco	953,007	588,004
Monaco	1,961,805	494,797
Malta	7,300,919	2,056,170
Montenegro	-	-
Slovenia	6,866,319	1,731,788
Syria	3,192,330	753,329
Tunisia	2,388,396	817,668
Turkey	9,654,248	3,915,865
Mediterranean	**552,598,061**	**179,765,133**

Table 18: Financing needs under the optimal management scenario per country (in €)

Italy has the greatest financing needs followed by Greece and Spain. Together, European countries' needs account for 94% of total operating needs in the Mediterranean region. Algeria has the lowest financing needs in the region.

At the regional scale, results are consistent with previous analysis. Hence, in 2006, Lopez estimated annual financing needs for basic management at €75M for MPAs in IUCN categories I-IV and between €88M and €441M for coastal/marine & broad marine areas in IUCN categories V-VI, hence a total of between €163M and €516M. He only considered operating management costs. In the present results, the needs for operating management costs amount to €552M, which seems consistent with the Lopez results, 9 years after his study. The MPA network has developed from 2006 to 2015 and it seems reasonable to assume that needs have increased during that period.

Here, optimal management is considered (and not basic management). Additionally, an assessment of investment needs is proposed. These short-term investments are essential to ensuring the sustainability of management and cannot be neglected, though they are difficult to report on an annual basis.

5.1.2 Results discussion

The approach here attempts to distinguish spending for various size categories of MPA. It also addresses where MPAs will be established and thus takes the analysis of MPA financing needs further.

Although figures on optimal management needs for the region and countries present 'indicative levels' of the financing targets for the region, data about financing needs should

be considered very carefully because no country has developed systems to determine their financing needs: this information is based on local surveys.

However, the calculated needs estimate is certainly a minimum. These figures do not include several potentially important costs: the costs associated with management by central agencies, and associated regional and national management costs being the most important. These costs can therefore be considered as a minimum and further research should be carried out to assess, by country, the costs associated with MPA management at regional and national levels.

Furthermore, these needs are likely to increase in the near future due to (i) the need to expand MPA systems by an estimated additional 3.06 million hectares, to achieve Aichi Target 11 by 2020, and (ii) the anticipated increased costs of management due to climate change vulnerabilities, for example, the increased risk on coastal protection.

5.1.3 Financing gap for the optimal management scenario

The available resources consist of national budget from central governments and funding from international cooperation. Two different samples were analysed: the first describes the financing gap for EU countries. For these, international funding comes mainly from EU LIFE projects. The second sample describes the financing gap for non-EU countries. For these, funding from international cooperation comes from bilateral ODA and GEF.

The assessment only considers those countries where there is a high level of confidence in the financial data, except for Spain and Montenegro which are in the medium level of confidence group.

The **financing gap** for the 14 countries assessed under the optimal management scenario is estimated to be **€475M** if annual average investment costs are not taken into consideration. This gap amounts almost **€700M** if investment costs are included.

Current revenues only cover 8% of financing needs for Mediterranean MPAs as a whole **(11% if investment costs are excluded).**

The table and figures below detail these results for EU and non-EU Mediterranean countries. As might be expected, **countries with the largest MPA networks are the ones with the largest financing gaps: Italy, Spain, France and Greece**.

The financing gap for the **EU countries** assessed under the optimal management scenario is estimated to be **€458M in 2014** (needs (excluding investment) are covered at **10%** by current revenues in these countries).

The financing gap for the **non-EU countries** assessed under the optimal management scenario is estimated to be **€17M in 2014** (needs (excluding investment) are covered at **15%** by current revenues in these countries).

Hence, non-EU countries have a relatively larger financing gap. Despite their rather small number of MPAs, these suffer from important financing gaps. This can largely be explained by the financing available to MPAs, which is lower in non-EU countries.

Countries	EU Member States national budget (in euros)	International cooperation from EU Member States (in euros)	Annual operating needs (in euros)	Financing gap (in euros)
Croatia	8,803,252	80,424	9,267,916	-384,240
Cyprus	20,000	0	7,847,221	-7,827,221
France	16,000,000	578,289	65,714,512	-49,136,223
Greece	5,200,000	0	134,036,122	-128,836,122
Italy	6,900,000	3,015,357	167,208,983	-157,293,626
Slovenia	48,000	56,935	6,866,319	-6,761,384
Spain	7,968,246	2,775,828	118,529,508	-107,785,434
Total	44,939,498	6,506,833	509,470,581	-458,024,250

Table 19: Financing gaps under the optimal scenario for EU countries (in €, 2014)

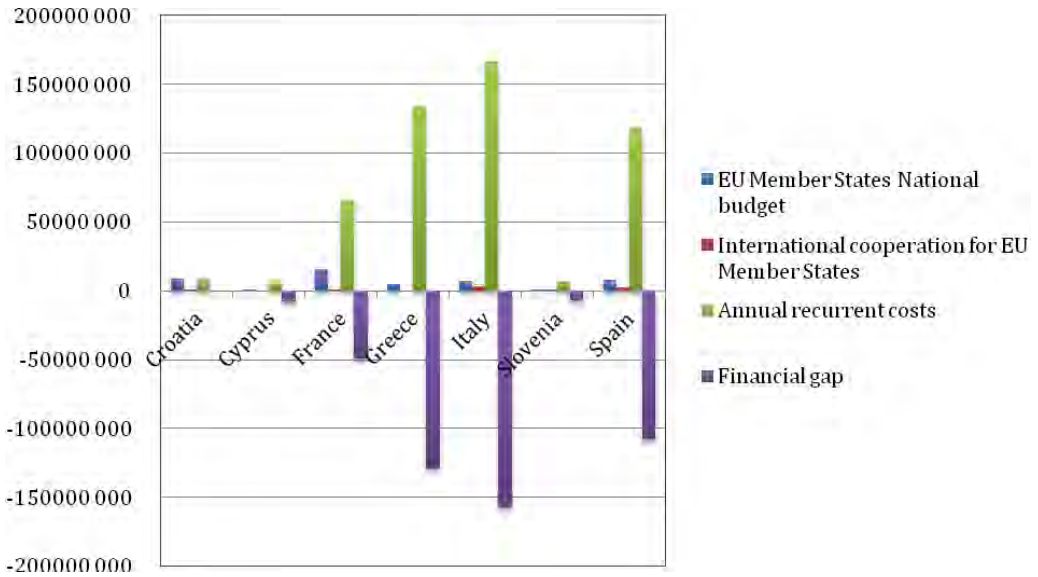


Figure 23: Financing gaps for optimal management in EU countries

Country	Non-EU national budget (in euros)	International cooperation for non-EU countries (in euros)	Annual operating costs (in euros)	Financing gap (in euros)
Albania	77,785	240,777	476,504	-157,942
Monaco*	79,800	59,300	1,961,805	-1,822,705
Montenegro**	N.A.	195,138	N.A.	N.A.
Egypt	130,041	8,945	1,488,964	-1,349,978
Israel	167,373	0	9,872,142	-9,704,769
Lebanon	88,466	0	1,961,805	-1,873,339
Tunisia	369,895	0	2,388,396	-2,018,501
Total	913,360	504,160	19,162,076	-16,927,234

* private donations **Medium confidence level

Table 20: Financing gaps under the optimal scenario for non-EU countries (in €, 2014)

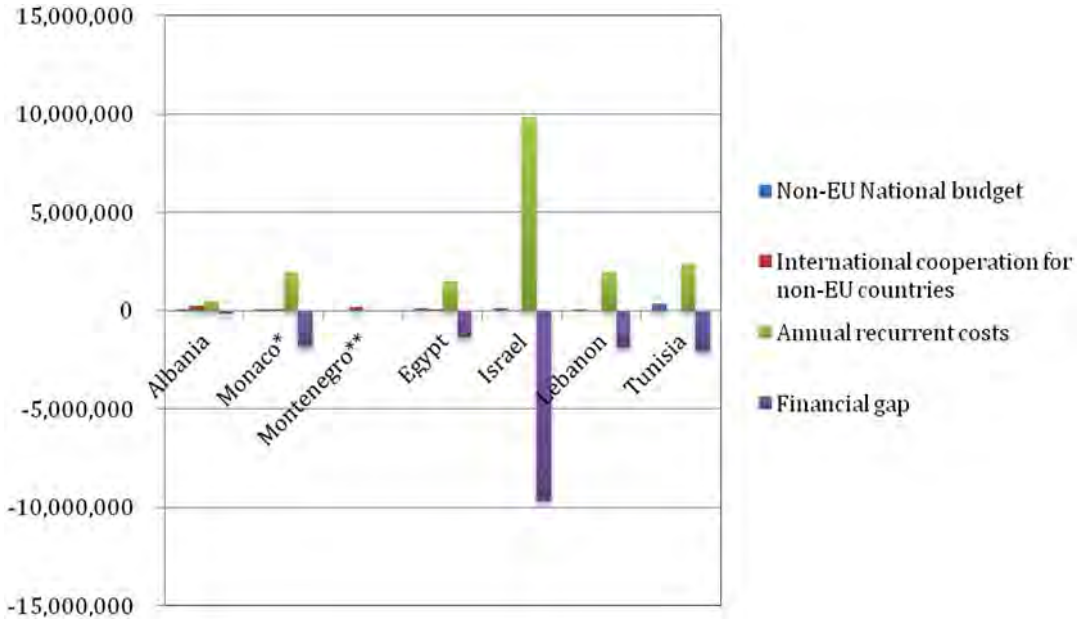


Figure 24: Financing gaps for the optimal management scenario in non-EU countries

5.2 Financing gap for ideal management

5.2.1 Financing needs for achievement of Aichi Target 11

a) State-of-the-art on financing needs for the ideal management scenario

A literature review highlighted the lack of consideration of the Aichi target objectives in the analyses of national strategy and objectives. Two countries, however, have considered these targets and attempted to assess the financing needs to attain such targets:

- In its national strategy for the creation and management of MPAs, France estimated that to conserve 20% of its marine areas (twice the Aichi target) through a system of Protected Areas, an operating budget of €170M would be necessary by 2020. In view of the current situation, this budget would be mainly borne by the government (almost €110M) (MEDDE, 2014).
- From Croatia's first planning document[15], the 2013 CBD Resource Mobilisation Information Digest concluded it was impossible to estimate with accuracy the total funds needed for the Croatian NSAP implementation.

Except for these, no study has attempted to financially characterise attainment of Aichi Target 11, as to say the **financing gap with regard to conservation of 10% of marine areas through a system of Protected Areas**. The following sections offer the first opportunity to introduce this issue for the Mediterranean region and to evaluate the investments required for the various countries.

b) Needs for the creation of MPAs to achieve Aichi targets

Based on 2012 data (Gabrié *et al*., 2012), the table below presents the per-country surface areas needed for achievement of Aichi Target 11. The following sections propose to extrapolate local results to these additional surface areas.

15 - Croatia (2000). An Overview of the State of Biological and Landscape Diversity of Croatia: with the Protection Strategy and Action Plans, Ministry of Environmental Protection and Physical Planning, Zagreb, December 2000, 158 pp.

Country	MPA surface area to be created to achieve Aichi Target 11 (km^2)
Albania	474.4
Algeria	2655.7
Cyprus	1535.69
Croatia	2611.77
Egypt	2016.12
France	0
Greece	15786.14
Israel	461.62
Italy	11178.41
Lebanon	478.35
Libya	3604.36
Malta	213.98
Monaco	7.54
Montenegro	236.3
Morocco	620.19
Slovenia	17.74
Spain	3011.17

Table 21: MPA surface to be created to achieve Aichi Target 11

Based on the average size of MPAs, area to be created has been estimated as being equivalent to 588 MPAs (of average size) in total. The cost of creating an MPA has been previously estimated at around €42,646. Thus, it would cost **€25M in total** to create the necessary MPAs.

c) Financing needs for effective management of existing MPAs and those to be created

The Net Present Value of financing needs for effective management of MPAs by 2020 under the ideal management scenario (conservation of 10% of marine surface areas via a network of Protected Areas) amounts to €7.29bn[16] (at a discount rate of 4%). Details by year are provided in Table 22 and 23, assuming regular creation of MPAs: 16.6% of MPAs to be created by 2020 are created each year. Projections for EU member States and non-EU countries have been separated.

2012 FINDINGS ON MPA CREATION

Since 2008, 23 MPAs have been established in 10 countries amounting to an additional surface area of 6,754 km² which represents close to a 7% increase of protected surface area in 5 years compared with the 2008 protected surface area of 97,410 km^2, or 4% of the Mediterranean (0.04% without Pelagos) (Gabrié *et al.,* 2012).

16 - Aggregated value for Croatia, Cyprus, France, Greece, Italy, Slovenia, Spain, Albania, Monaco, Egypt, Israel and Tunisia

Country location	Net Present Value	2015	2016	2017	2018	2019	2020
EU countries financing needs (in €)[17]	3,540,705,856	675,431,785	675,431,785	675,431,785	675,431,785	675,431,785	675,431,785
Non EU countries financing needs[18] (in €)	109,145,454	20,820,794	20,820,794	20,820,794	20,820,794	20,820,794	20,820,794

Table 22: Financing needs for optimal management of existing MPAs (in €)

Country location	Net Present Value	2015	2016	2017	2018	2019	2020
EU countries financing needs (in €)	2,587,029,407	145,761,444	291,522,887	437,284,331	583,045,775	728,807,219	874,568,662
Non EU countries financing needs (in €)	1,057,979,568	59,609,925	119,219,850	178,829,775	238,439,700	298,049,626	357,659,550

Table 23: Financing needs for optimal management MPAs to be created (in €)

5.2.2 Revenue projection up to 2020

The assessment of resource mobilisation from 2014-2020 took into account national expenditures from central budgets for MPAs and international funding from international cooperation. Projections for EU Member States and non-EU countries have been separated.

The projections on national central budgets assume that they remain constant over time. As stated in the previous section, most countries kept the same level of investment with slight variations over the period 2012-2014. This trend was used up to 2020.

The projections on international funding took into account the remaining financial resources from bilateral ODA and GEF projects, and from the EU life projects. As these resources represent commitments, the same rule of calculation was used as previously; the remaining total value was divided by the number of years left to the end of the project. In addition, the financial resources that will be allocated by the GEF in its 6th replenishment cycle (2014-2018), to support implementation of the Aichi targets, were estimated. GEF-6 provides an indication of individual allocations for countries eligible to receive grants devoted to biodiversity (see Table below). GEF-5 allocated 56% of total GEF's grants to Marine Protected Areas, so an equal level of investments in countries in the Mediterranean has been assumed, which potentially represents €22,771,876. These financial resources were projected up to 2020 by distributing the total value over the remaining 5 years. Figure 36 details the resource projections.

17 - Aggregated value for Croatia, Cyprus, France, Greece, Italy, Slovenia and Spain

18 - Aggregated value for Albania, Monaco, Egypt, Israel and Tunisia

Country	GEF-6 allocated to biodiversity (US$)
Albania	1,500,000
Algeria	4,090,000
Egypt	4,450,000
Lebanon	1,500,000
Libya	1,500,000
Montenegro	1,500,000
Morocco	4,900,000
Tunisia	1,500,000
Turkey	7,140,000
Total	**28,080,000**

Table 24: GEF-6 allocation to biodiversity

(Source: GEF-6 Stars allocation)

For the purpose of resource projections from the LIFE program, the remaining financial resources from the EU LIFE program were taken into consideration. In addition to that, it was assumed that investments from LIFE will remain at the same level as in the previous period (2010-2014), which represents €37M. These resources were projected over the period (2014-2020). This assumption is motivated by the fact that Member States have already engaged in the process of requesting financial resources from the EU, which may increase the remaining financial resources from LIFE. Marine Protected Areas may get resources from the LIFE program as well as from the European Maritime and Fisheries Fund. The latter is not commonly used to promote marine Natura 2000 but has huge potential for the monitoring, restoration and management of Marine Protected Areas.

As a result, the assessment up to 2020 for non-EU countries shows continued flow, but with a downward trend, of remaining financial international resources, mainly due to the availability of resources for existing projects in Albania, Egypt and Tunisia. International funding is greater than the resources from central budgets for the first three years of projections. The trend is reversed from 2016 onwards. Total remaining funding from international cooperation could increase once projected investments from GEF-6 are taken into account, which would increase resource mobilisation.

The assessment up to 2020 for EU Member States shows the same descending trend as for the resources from the EU LIFE program. This is due to the project cycle of LIFE programs that comes to the end by 2019. Over the period 2014-2020, the central budgets curve is greatly superior to the contribution from EU funding. The total central budget contribution amounts to €333,233,264, while the total contribution of LIFE projects amounts to €21,465,665.

This assessment should be taken as a proxy of the actual financial resources available at the national level. The assumption of constant levels of central budgets is a reliable assumption due to past trends in national expenditures in the region; the assessment for resources mobilised through international cooperation needs more in-depth analysis. Indeed, only financial commitments were taken into consideration, which assumes that countries are in a position to undertake activities in the expected timing of the financial programming for disbursements. The funding trend may change, as some countries are committed to applying

for the 6th GEF cycle and other EU funds to support Protected Areas. So far, there is no evidence regarding the amount of money that will ultimately be devoted to MPAs.

There are more uncertainties regarding an increase in available financing from bilateral ODA; most countries in the region have observed a decreasing trend which is mainly explained by the financial crisis and the priorities in key thematic areas given by donors in the region.

The tables and figures below present the projections of revenues for the period 2014-2020.

	2014	2015	2016	2017	2018	2019	2020
Non-EU countries national budget	854,060	833,560	833,560	833,560	833,560	833,560	833,560
Non-EU countries international cooperation (remaining funding)	504,160	951,791	951,791	594,600	594,600	594,600	0
Potential financial resources from the GEF trust fund	504,160	2,500,450	2,500,450	2,500,450	2,500,450	2,500,450	2,500,450

Table 25: Revenue projection for 2020 for non-EU countries (in euros)

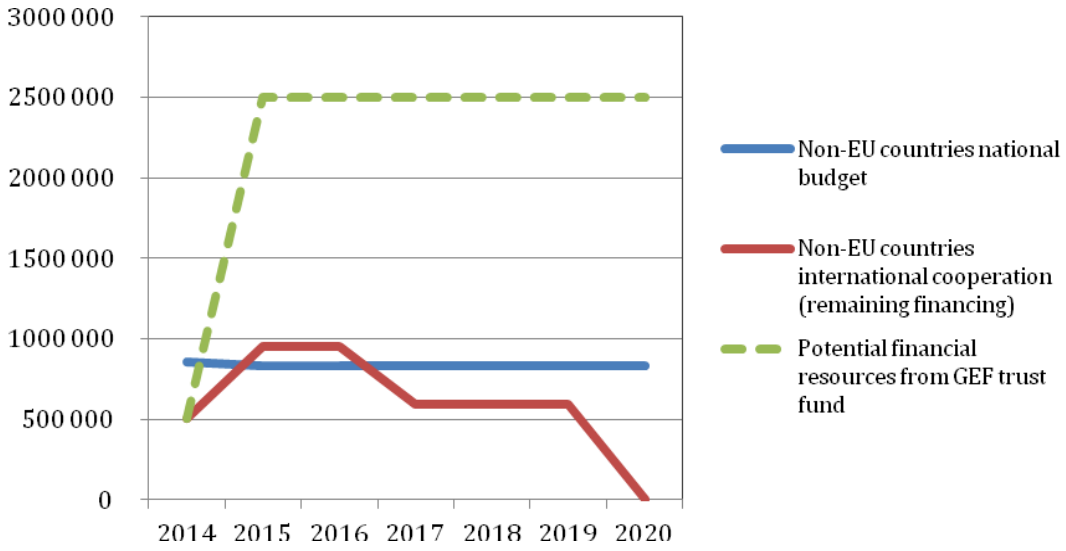


Figure 25: Details of resource projection up to 2020 for non-EU countries (in euros)

	2014	2015	2016	2017	2018	2019	2020
EU Member countries national budget	55,339,498	55,339,498	55,339,498	55,339,498	55,339,498	55,339,498	55,339,498
Remaining EU LIFE projects	6,506,833	4,720,042	3,846,681	3,351,566	2,268,325	318,512	0
Potential resources from EU LIFE	6,506,833	2,643,744	4,126,997	4,445,265	5,740,636	6,994,087	13,337,526

Table 26: Resource projection up to 2020 for EU countries (in euros)

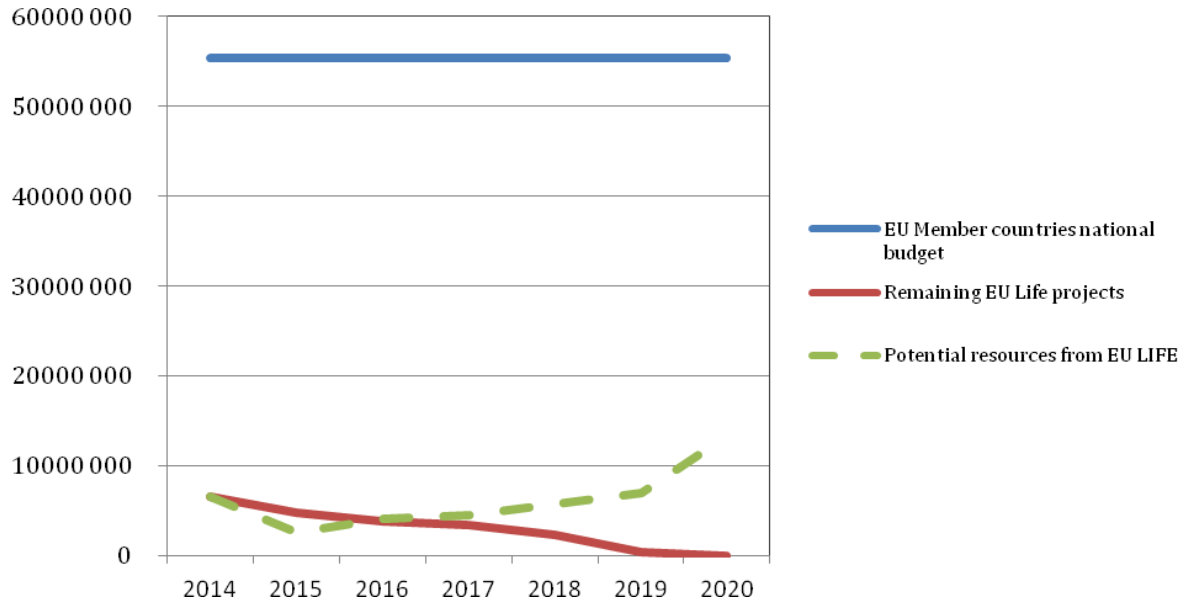


Figure 26: Details of resource projection up to 2020 for EU countries (in euros)

5.2.3 Financing gap for the ideal management scenario

The comparison of financing needs for effective protection of 10% of the coastal marine area in the Mediterranean (creation and effective management of existing MPAs and those to be created) with the projected resources for the period 2015-2020 provides an estimate of the financing gap for the ideal management scenario.

The **total financing gap for the ideal management scenario for the 12 countries studied in the Mediterranean amounts to €7.002bn until 2020.**

The financing gap for this scenario is estimated at **€1.162bn for the non-EU countries in the study (Albania, Egypt, Israel, Monaco and Tunisia)**. This corresponds to **the creation and effective management of 5,738 km² of MPAs** (compared with 712 km² of existing MPAs). Notably, Lebanon had to be excluded from the study as the reference MPA used for the study has high management costs for a very small area, which has created an overestimate of the financing needs.

The financing gap is estimated to about **€5.839bn for EU countries in the study (Croatia, Cyprus, France, Greece, Italy, Slovenia, and Spain)**. This estimate is for the **creation and**

effective management of 34,141 km² of MPAs (compared with 45,999 km² of existing MPAs – excluding the Pelagos sanctuary).

The tables and figures below present changes in financing over the period 2015-2020.

This funding effort to reach the Aichi target is substantial when compared with current resources directed to MPAs. This funding effort corresponds mainly to the creation of new MPAs that would definitely lead to major benefits for tourism, fisheries and other coastal activities in the medium term. This value seems quite small when it is considered that MPAs are a major contributor to international tourism activities in the Mediterranean. **This value represents less than 4% of the annual revenues of tourism in the Mediterranean**.

GAP FOR IDEAL MANAGEMENT OF MPAs IN THE MEDITERRANEAN

Using an average funding gap per km^2, it is possible to extrapolate the results of this study to countries that did not provide financial data and to estimate a funding gap for the Mediterranean basin as a whole. This raises the funding gap to €7.671bn which is €669M more for an additional 12,678 km^2 to be protected by 2020. **Overall, achieving Aichi Target 11 by protecting 64,751 km^2 by 2020 could lead to a funding gap of €7.67bn if the general trends regarding MPAs funding stay the same**. This last crude extrapolation only aims to provide an order of magnitude of the gap for the whole basin and should be used with precaution as an illustration.

	Net Present Value	2015	2016	2017	2018	2019	2020
Non EU countries total budget (in euros)	7,334,098	1,717,385,00	1717385	1,360,194	1,360,194	1,360,194	765,594
Non EU countries total needs (in euros)	1,169,698,428	80,921,627	140,531,552	200,141,478	259,751,403	319,361,328	378,971,253
Non EU financing gap for ideal management (in euros)	**- 1,162,364,330**	**- 79,204,242**	**- 138,814,167**	**- 198,781,284**	**- 258,391,209**	**- 318,001,134**	**- 378,205,659**

Table 27: Financing gap projection under the ideal scenario for Non-EU Mediterranean countries (in €)

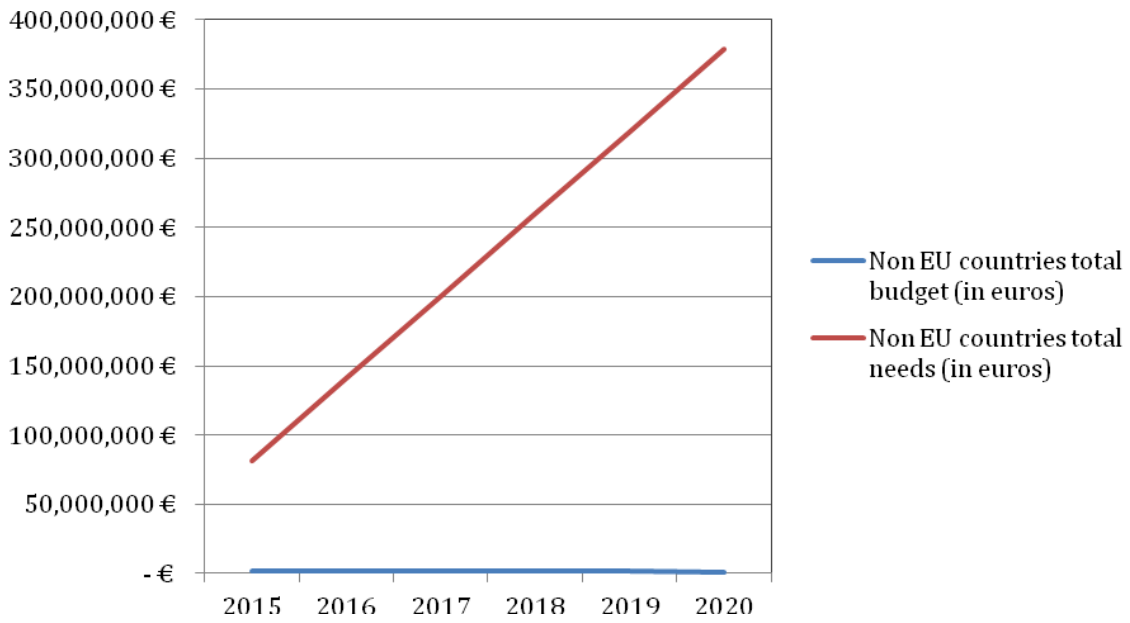


Figure 27: Financing gap projection under the ideal scenario for non-EU Mediterranean countries (in €)

	Net present value	2015	2016	2017	2018	2019	2020
EU countries total budget (in euros)	303,372,494	60,059,540	59,186,179	58,691,064	57,607,823	55,658,010	55,339,498
EU countries total needs (in euros)	6,143,046,809	824,114,089	969,875,532	1,115,636,976	1,261,398,420	1,407,159,863	1,552,921,307
EU financing gap for ideal management (in euros)	**-5,839,674,314**	**-764,054,549**	**-910,689,353**	**-1,056,945,912**	**-1,203,790,597**	**-1,351,501,853**	**-1,497,581,809**

Table 28: Financing gap for ideal management in EU countries

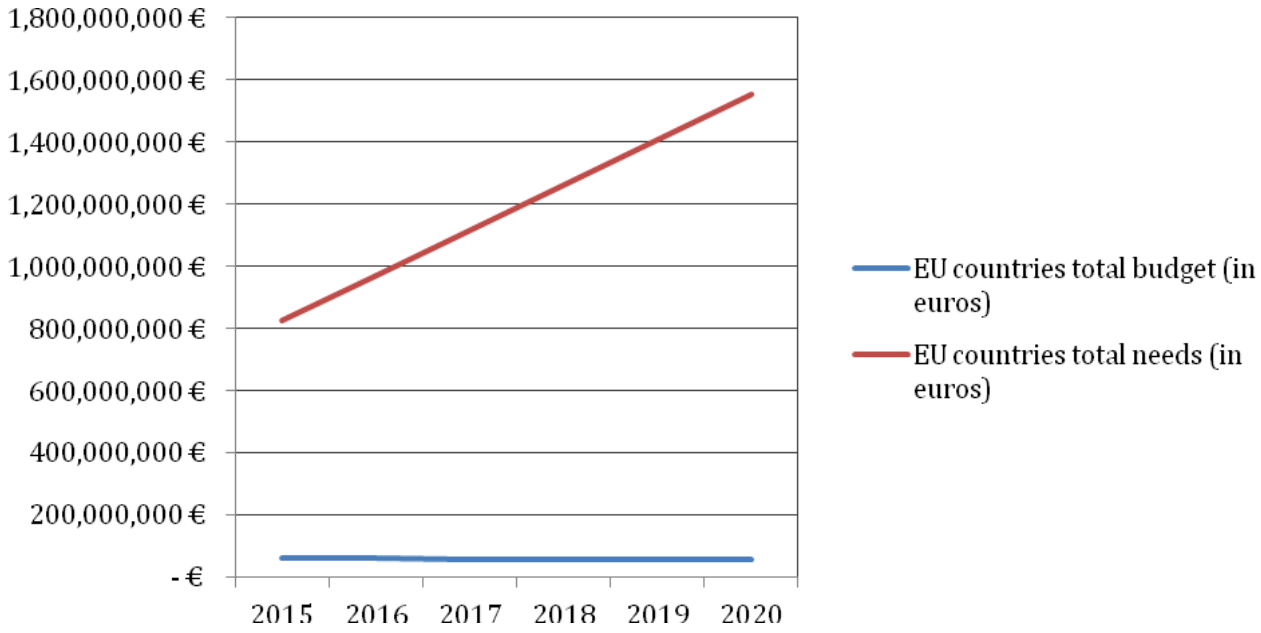


Figure 28: Financing gap projection under the ideal scenario for EU Mediterranean countries (in €)

6 KEY FINDINGS AND RECOMMENDATIONS

6.1 Key findings

Regarding resource needs from local MPAs

The study showed variability in the funding structure according to the level of development of MPAs. In the pioneer phase, MPAs are more dependent on national budgets than in the autonomous phase. For the latter, there is an increase in financial sources, in particular from the private sector.

The level of financing needs is also correlated with the level of development of the MPA; recent and pioneer MPAs call for substantial investments in view to consolidating management structures and activities. In the autonomous phase, investments are directed to survey and monitoring, and car and boat purchase, which assumes financial stability for operating costs (staff salaries and other operating costs)

Regarding resource consumption

The study demonstrated the importance of human resources in the operating costs of MPAs at the local level. This may be even greater as voluntary contribution has hardly ever been estimated by MPAs and scientific support was often associated with project costs and included in short term investments.

Focusing on potential factors for resource consumption, MPA marine surface area has been identified as the main factor affecting human resource consumption and costs. It was thus possible to identify different levels of resource consumption based on MPA marine surface area in the Mediterranean.

Large disparity between reported resource needs for effective management suggests that costs for effective management are highly dependent on manager ambition and thus with the local context and objectives of the MPA.

Regarding resource mobilisation at the national level

The findings on resource mobilisation show an important role for Official Development Assistance (bilateral and multilateral ODA) in assisting countries in the establishment of a coherent and efficient framework for an MPA network. EU funds play a predominant role for EU Member States, allowing regions to invest in MPAs.

Besides creation and management of MPAs, cross-cutting issues are predominantly targeted by international cooperation (ODA bilateral and multilateral). The scale of the necessary investments varies considerably from one MPA to another. This encompasses a wide range of activities such as:

- Financing good practices in fisheries or the shift from harmful practices towards to more sustainable ones;
- Financing restoration activities through PES schemes or other innovative financial mechanisms (environmental funds);
- Financing activities aiming to fight invasive alien species;

- Financing activities aiming to reduce or avoid pollution as a consequence of polluted emissions in river basins;
- Implementing participative management plans and conservation agreements at the local level.

The findings show high dependency on grants from international cooperation. There is a risk of financial uncertainties for some countries if they do not pursue their efforts in securing national public funding for MPAs.

Along with public funding, countries have to engage in financial strategies to attract the private sector. This could be done through donations, payments for environmental services, or compensation schemes, among others. National efforts can be directed to setting a coherent “polluter pays principle” system to gather essential resources for MPAs.

Regarding the financing gap for an optimal management scenario

The financing gap for the 14 countries assessed under the optimal management scenario is estimated to be €475M per year if annual average investment costs are not taken into consideration. This gap amounts almost €700M per year if these investment costs are included. Current revenues only cover 8% of financing needs for Mediterranean MPAs as a whole (11% if investment costs are included).

The financing gap for the EU countries assessed under the optimal management scenario is estimated to be €458M in 2014 (needs (excluding investment) are covered at 10% by current revenues in these countries).

The financing gap for the non-EU countries assessed under the optimal management scenario is estimated to be €17M in 2014 (needs (excluding investment) are covered at 15% by current revenues in these countries).

Projections on resource mobilisation over 2014-2020

These projections must take into account trend for national expenditures on Marine Protected Areas, financial resources from international cooperation and potential financial resources as a result of country negotiations for new funding from the GEF-6 and LIFE programs.

It is reasonable to expect an increased financial commitment from national governments that could devote more resources to Marine Protected Areas.

Moreover, progress in strengthening national institutional capabilities to attract the private sector in the development of multiples financial strategies for MPAs could also broaden the impetus of financial resources at the local and national level.

Finally, increased cooperation between public entities and stakeholders from international cooperation, could improve the negotiation process for supplementary funding.

Regarding financing gaps for the ideal management scenario

The total financing gap for the ideal management scenario for the region amounts to €7.002bn until 2020. The financing gap for this scenario is estimated to €1.162bn for non-EU countries. The financing gap is estimated to about €5.839bn for EU countries. This estimate is mainly for the creation and effective management of 49,000 km² of MPAs in Croatia, Cyprus, France, Greece, Italy, Slovenia, Spain in the EU, and Albania, Egypt, Monaco, Israel, Tunisia outside the EU.

Regarding the benefits provided by effective management

This report does not compare the financing gaps for effective management of MPAs with the benefits these MPAs provide. An effective MPA system is known to ensure the provision of market (fisheries, tourism & recreation, education, biodiversity) and non-market (regulation of coastal erosion, water quality, carbon sequestration, regulation of submersion, etc.) marine ecosystem services. It is thus key to consider the required investments to cover the financing gap to achieve the targets in the light of the benefits of such investments provided in terms of employment, preservation of Mediterranean natural assets for tourism, provision of ecological functions (such as water quality and reduction of coastal erosion) and the overall contribution to climate change mitigation (through the protection of seagrass beds) and adaptation (through increased resilience of coastal systems).

6.2 Recommendations for decision-makers

The study made it possible to draft some key recommendations for decision-makers. These include the following:

Regarding MPA financing in the Mediterranean

- There is an urgent need to consider an increase in current financing for existing MPAs in the Mediterranean region, where only 8% of the financing needs for effective management of MPAs are covered.
- National budgets are quite constant over the study period and essential for the operating activities of MPAs. Countries need to consolidate their public funding with a view to upgrading MPAs to the autonomous phase.
- Recipient countries are confronted with a diversity of approaches for mobilising international funding. Each international source of financing has formalized its own process of allocating financial resources, and such diversity requires a strong national capacity to respond to the specific requirements for each funding source.
- The cost estimate for effective management of an MPA assumes that the MPA has identified activities needed for the implementation of this level of management. Hence, management planning is essential for assessment of financing gap at the local level and is a precondition to ensuring the sustainability of the financial strategy. In 2012, out of 80 surveyed MPAs, over 56% did not have a management plan.
- Marine Protected Areas have increased their financial resources by taking advantage of a drive toward climate change mitigation and adaptation in available funds. From current observation of ODA and the GEF, the nexus between climate change and biodiversity is causing an upward trend in total biodiversity-related aid.
- Despite comprehensive institutional organisation, some countries are confronted by a lack of coordination between entities (central agencies responsible for MPAs), which in turn affects the permanent and consistent flow of resources. In some countries (such as Monaco and Montenegro), private donations have a prominent role in financing Protected Areas, either from the private sector or NGOs.
- The current analysis only considered financial aspects as a barrier to sustainable management and financing. Structural barriers, such as limited division of responsibilities between different institutions that share the responsibility for financing and/or managing MPAs, can be jeopardise to cost-efficient operations. The legal and regulatory framework governing the financing of MPAs can also be a drag on the

adoption of new mechanisms or diversified sources of revenue. Leadership barriers (staff skills, legislation, etc.) and knowledge and information gaps are additional barriers to be taken into account in further analysis.

Regarding actions to be undertaken

- In view of the current situation, financing needs could be partly covered by local mechanisms, including local public support. In addition, innovative financing mechanisms should be developed: entrance and users fees, earmarking of charges collectable under the occupation of public land, etc.
- Regional cooperation should be strengthened to achieve more complementary and joint management, optimising the consumption of resources.
- The preference for project-based international funding may increase the vulnerability of recipient countries in pursuing the recommendations derived from international funding projects. In the absence of supplemental financing, national budgets have to take over from international funding to maintain the progress achieved, in a context of budget restrictions and the financial crisis.
- To mitigate this situation, recipient countries have to deploy a long-term national commitment to ensuring constant (operating) external financing for Coastal and Marine Protected Areas, in particular to upgrade them from the previous stage of development. This implies strong internal cooperation and dialogue at the governmental level to keep priorities for Marine Protected Areas in the political agenda. This national coordination is necessary but difficult to achieve (requiring personal communication) as some countries suffer from institutional weaknesses, a lack of trained staff, and a lack of political awareness.

Further avenues for research

- National government budget decision-makers have no clear data on the needs, benefits, and cost-effectiveness of increasing MPA system investment. Mediterranean countries should undertake studies on needs for their MPA system management. They should also precisely identify associated activities to ensure the comparison of results across countries and the accuracy of assessment at the Mediterranean level.
- Comparison between MPAs in different countries is difficult given the wide diversity of MPAs models. However, analysis could be deepened at the European level.
- Assessment of Mediterranean MPA benefits should be pursued to justify investments. The contribution of Marine Protected Areas to the economy is still both poorly documented and poorly understood and, therefore, undervalued by decision makers. MPA management is thus viewed as a cost, rather than an investment. Financing issues also call for methodological developments to quantify services provided by Marine Protected Areas, including the socio-economic dimension.

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8 APPENDIX 1: MPA SAMPLE SELECTION

Beyond achieving 10 percent of protected area coverage in the marine realm, the revised CBD targets also call for Marine Protected Areas to be effectively managed.

Achievement of MPA goals can be directly monitored via preservation objectives and be assessed by measuring change in the quality of habitats and ecosystems since the creation of the MPA. But MPA goals can also be monitored indirectly via management objectives and assessment of implementation level for actions identified as being necessary to guarantee the preservation of habitats and ecosystems. The **efficiency** of an MPA thus shows how far activities implemented during its development allow for achieving MPA preservation goals (Hockings et al., 2000). The **effectiveness** of an MPA is expressed with regard to its management efforts, in contrast to efficiency which considers achievement of management plan objectives (see box below).

Management effectiveness assessments help to understand how and why actions are suitable for the local context or have to be improved, which often requires an additional operating and investment budget. Management effectiveness is thus associated with sound MPA governance, adequate management plan definition and the resources to implement this plan.

Although research on MPA effectiveness is still in its infancy, there are global studies that point to a significant shortfall in effectiveness — only 20-50% of Protected Areas (terrestrial included) assessed were found to be effectively managed (Watson et al., 2014).

In the Mediterranean, MPA Status 2012 attempts an initial assessment of the management effectiveness of the current network of Marine and Coastal Protected Areas. For 80 MPAs analysed in 2012, only 19% cover the full range of technical, legal, scientific and human measures available for governance, with relevant objectives on knowledge, conservation, awareness raising and sustainable tourism (Zakynthos, Cerberus-Banyuls, Montgri-Medes parks or reserves, etc.) (Gabrié et al., 2012). These MPAs, having the necessary management resources for staff and equipment and also for governance, present a fairly comprehensive management system that tends towards effective management. Management effectiveness was measured via the following 11 parameters taken from the responses of MPA managers:

- Existence or absence of a management plan
- Existence of baseline studies for the MPA
- Implementation of regular monitoring programs or occasional studies within the MPA
- Type of governance (stakeholder participation)
- Presence of no-take zones
- Perception of overall changes in fishery resources
- Personnel assigned to the MPA (sworn staff, staff training)
- Scale of monitoring
- Existing infrastructure and equipment
- Awareness raising tools developed by the MPA

- MPA funding and the existence of a business plan

As a result, the minimum level of effort for MPA management has been defined via verification of all these parameters. This minimum level of effort is an initial guarantee of management effectiveness and is defined in the report as the “optimal management scenario”.

Sampled MPAs were selected with regard to their ability to provide information on the costs associated with these 11 “effective management” parameters.

9 APPENDIX 2: LOCAL DATA COLLECTION

The local budget analysis is based on data generated via assessment of the financial status of 20 MPAs across the Mediterranean basin. This information represents the baseline for identifying needs for basic and optimal management.

Detailed information on individual MPA budgets is often confidential and can rarely be collected from public reports or websites. To generate this financial data, a questionnaire was thus sent to managers of 32 individual MPAs between October 2014 and January 2015.

To ensure a common understanding of the questionnaire, interviews with MPA managers were conducted. During the MedPAN regional experience-sharing workshop held in Tirana, Albania (in November 2014), face-to-face interviews were conducted with 15 of these MPA managers (directors, administrative staff, financial assistants, project officers, etc.). Additional interviews were conducted by phone with the remaining managers. Most MPA managers participating in the survey presented identification of financing needs as an essential step to ensuring sustainable management of their MPA and showed interest in assessment of their financing needs. MPA managers presented financial data for 2012, 2013 and 2014

This financial data was collected as follows:

Available finances. Details on MPA finances were provided by the respondents in a range of currencies. An overview of individual MPA funding by governments, donors or other sources is not available for the Mediterranean. Information that may exist on an agency or donor basis is dispersed, unclear and not systematically collected (Lopez *et al.*, 2006). Contributors of funding for MPA management and creation were inventoried and divided into categories according to location (multilateral, bilateral, national, and sub-national) and type (government, NGO, private individual and volunteer and in-kind donations). The timeframe of the income focused on the period 2010-2014 in order to elict trends and forecast funding for the future. Finally, for partially terrestrial MPAs, respondents were also asked to estimate the share of the total budget actually dedicated to the marine part of the Protected Areas.

Management costs. Costs were split into three categories:

1. MPA current expenses;
2. MPA detailed spending patterns per management component;
3. Additional operating and investment resources (staff capacities and training facilities) considered necessary for attainment of minimum effective management.

Details on MPA characteristics (protection type, goals, pressures, etc.) and global budget were reviewed from various web sources and grey literature:

- the World Database on Protected Areas and the MAPAMED database provide detailed information on the geographical characteristics of MPAs in the Mediterranean;
- the Status of Marine Protected Areas in the Mediterranean Sea 2012 and the MAPAMED database contain information on the budget of the Mediterranean MPA system and also an amount of information on MPA management effort level.

10 APPENDIX 3: LOCAL SURVEY QUESTIONNAIRE

SUPPORTING INFORMATION

Marine resources are increasingly threatened by human activities and there is urgent need for the creation and management of effective Marine Protected Areas around the world. At present, there is no good information available on how much it will cost to create and provide effective Protected Area management in the Mediterranean Sea.

The MedPAN association and the RAC/SPA, in collaboration with WWF Mediterranean, are gathering such information as part of a study on "Sustainable financing of MPAs in the Mediterranean". As a first step in the process, the following questionnaire aims to collect overall and detailed data on the cost of managing and creating MPAs in the Mediterranean.

Your MPA is one of the 30 MPAs selected among the 668 MPAs[19] of the Mediterranean Sea to help us estimate the financing needs for effective management of the MPA. We would be very grateful if you would help us in this project by completing this questionnaire by **December 2014.** If the area concerned is both a marine and land protected area, please limit your answers to the marine component where possible. **THANK YOU FOR YOUR HELP**

BACKGROUND INFORMATION

Country:	Select a country
Name of the MPA[20]:	

Name of respondent (confidential):	
Surname of respondent (confidential):	
Position of the respondent:	
Email address of respondent (confidential):	
Organisation/institution of respondent:	
Title and Department of respondent:	

Date of completion and submission of completed questionnaire:	

19 - Marine natura 2000 sites included; see www.mapamed.org

20 I- n english

Currency used when reporting financial information[21]:	(Choose the currency)
Do you know when the MPA project started before its official designation (number of years)?[22]	

OVERALL BUDGET ANALYSIS

Sufficient financial resources are keys to the effective management of a protected area. A protected area without enough financing to perform basic management activities is just a 'paper park', unable to fulfil its objectives. Comparison between your recent expenses and revenues provides us a measure of the sufficiency of your current resources.

EXPENSES

Please indicate the total amount of financial resources spent in 2012, 2013, 2014 on your MPA.

Indicate in the "comments" column the level of confidence in the estimated amount (high, medium, low) and/or any other additional comments.

	2012	2013	2014	Comments
Average annual recurrent/operating/maintenance costs[23] (in the selected currency) (confidential)				
Average annual investment costs[24] (in the selected currency) (confidential)				

INCOME

21 - Monetary values will be adjusted according to purchasing power parity (PPP), an indicator of the local 'value' of one U.S. dollar. This adjustment provides a standardization to remove the effect of relative variation in economies between countries.

22 - I.e. when did the idea that a particular location deserves protection emerge? This question aims at estimating the duration of the establishment/creation phase, i.e. the period between the idea that a particular location deserves protection and official designation of the MPA.

23 - Recurrent / operating costs correspond to costs associated with the administrative and operational functioning of the MPA. They include costs of: wages (administrative, field &scientific staff), the maintenance of offices, vehicles and the area, electricity and water, basic equipment (GPS, uniforms etc).

24 - Investment costs represent the cost of new equipment, new infrastructure, education & training and scientific monitoring development.

Please indicate the total amount of funding received in 2012, 2013, and 2014 by your MPA. If specific annual data is not available, you may provide a best estimate of average annual funding.

Indicate in the “comments” column the level of confidence in the estimated amount (high, medium, low) and/or any other additional comments.

	2012	2013	2014	Comments
Average annual funding (in the selected currency)				
Average annual funding in the form of volunteer labor (in total volunteer time)				
In-kind donations (in monetary value of goods and/or services contributed)				

Please indicate the amount of monetary funding you received in 2012, 2013, and 2014 by type of funding (government, NGO, private individual). For each reference year, the sum of individual types of financing should be equal to the previously mentioned total amount of monetary financing . Please enter “0” if you received no funding for a category.

Indicate in the “comments” column the level of confidence in the estimated amount (high, medium, low).

Main sources of financing	2012	2013	2014	Comments
Funding from local government (confidential) (in the selected currency):				
Funding from regional government (confidential) (in the selected currency):				
Funding from national government (confidential) (in the selected currency):				
Funding from international donors and NGOs (confidential) (in the selected currency):				
Funding from private sector (confidential) (in the selected currency):				
Financing from self-financing (entry fees, taxes on leisure activities…) (confidential) (in the selected currency):				
Funding from other sources of financing (confidential) (in the selected currency), please specify the source: :				

DETAILED BUDGET ANALYSIS

The following information will be used to understand the current distribution of expenses between the various uses of resources (financial accounting) and the various activities (management accounting) engaged on your MPA.

FINANCIAL ACCOUNTING

Please identify all 2014 **recurrent costs**[25] for your MPA. Please provide all the information requested below.

					Average wage (in the selected currency per month)	Average number of staff (per year)	Average contract duration (in months)	Comments
Recurrent costs	**Human resources**	**Permanent staff**	☐	Administrative[26] staff:				
			☐	Field staff[27]:				
			☐	Scientific staff:				
		Short-term and seasonal staff	☐	Administrative staff:				
			☐	Field staff:				
			☐	Scientific staff:				

25 - Recurrent / operating costs correspond to costs associated with the administrative and operational functioning of the MPA. They include costs of: wages (administrative, field &scientific staff), the maintenance of offices, vehicles and the area, electricity and water, basic equipment (GPS, uniforms etc).

26 - Communication staff included

27 - Field officers

					Number of units (please specify the unit) Ex: 3 cars, 2 boats	**How often do you have to cover this expense?**	**Costs per unit** (in the selected currency per unit) Ex: 300€ per month, 30€ per car	**Comments**
Recurrent costs	**Maintenance**	**Local infrastructure rent/maintenance[28]**	☐	Local office and visitor center rent:		Please choose		
			☐	Local office and visitor center maintenance:		Please choose		
			☐	Other:		Please choose		
		Vehicle maintenance and fuel	☐	Boat fuel:		Please choose		
			☐	Boat maintenance:		Please choose		
			☐	Car fuel:		Please choose		
			☐	Car maintenance:		Please choose		

				Monthly invoice (in the selected currency per month)	Comments
Recurrent costs	**Local utilities**	☐	Electricity:		
		☐	Communications (Internet, etc):		
	Basic equipment	☐	GPS devices, boots, uniforms, torches, etc.		

Please tick all **investments** made by the MPA since its official creation/designation. Please specify if this investment has been made this year or in the past.

	Amount of the	Have you made the investment this	If no, when did	How often do you have to renew this	Comments

28 - The maintenance of infrastructure includes cleaning, the intervention of plumbers, etc.

					investment (in the selected currency)	year?	you (last) make the investment?	investment?[29]	
Investment costs	Material resources	New equipment purchase	☐	Boats:		Please choose		Please choose	
			☐	Cars:		Please choose		Please choose	
			☐	Scuba-diving equipment:		Please choose		Please choose	
			☐	Other:		Please choose		Please choose	
		Local infrastructure purchase	☐	Local offices for management authority staff:		Please choose		Please choose	
			☐	Local visitor center:		Please choose		Please choose	
			☐	Demarcation buoys:		Please choose		Please choose	
			☐	Hiking paths:		Please choose		Please choose	
			☐	Other:		Please choose		Please choose	
	Studies[30]		☐	Scientific studies:		Please choose		Please choose	
			☐	Socio-economic assessments:		Please choose		Please choose	
			☐	Regular ecological monitoring:		Please choose		Please choose	
			☐	Management plan definition:		Please choose		Please choose	
			☐	Business plan definition:		Please choose		Please choose	
			☐	Management plan updating:		Please choose		Please choose	
			☐	Business plan updating:		Please choose		Please choose	
	Education	Public training and environmental	☐	Conferences/meetings:		Please choose		Please choose	
			☐	Exhibits:		Please choose		Please choose	

29 - Because of equipment obsolescence, consumables, updating processes, etc.

30 - Please indicate in the “comments” column, the budget, the date and the provider of each individual study.

		education	☐	Other:		Please choose		Please choose	
		Staff training:	☐	External training:		Please choose		Please choose	
			☐	Internal training:		Please choose		Please choose	
	Remediation of the quality of ecosystems		☐	Restoration:		Please choose		Please choose	
			☐	Rehabilitation:		Please choose		Please choose	
	Compensating measures for local stakeholders (including alternative- income generating activities and fisher buy-out)		☐			Please choose		Please choose	

MANAGEMENT ACCOUNTING

For each previously mentioned expense/cost please tick one or several associated operational management objectives: knowledge acquisition, stakeholder engagement, enforcement, administrative organisation. For expenditures covering several management objectives, please provide quantitative details on the distribution of expenditure between these different objectives (for instance: 20%/30%/10%/40%) in the last column. For expenditures covering only one management objective, please provide qualitative details in the last column.

				Cost related to knowledge acquisition and environment monitoring	Cost associated with administrative support for stakeholder engagement (training, seminar, meetings, communication tools)	Cost associated with control, regulation/supervision of activities on the MPA	Cost associated with administrative organisation and governance of the MPA	Quantitative distribution between management components (in %) OR qualitative description
Recurrent costs	**Human resources**	**Permanent staff**	Administrative staff	☐	☐	☐	☐	/ / /
			Field staff	☐	☐	☐	☐	/ / /
			Scientific staff	☐	☐	☐	☐	/ / /
		Short-term and seasonal staff	Administrative staff	☐	☐	☐	☐	/ / /
			Field staff	☐	☐	☐	☐	/ / /
			Scientific staff	☐	☐	☐	☐	/ / /
	Maintenance	Local infrastructures rent/maintenance	Local offices and visitor center	☐	☐	☐	☐	/ / /
			Other	☐	☐	☐	☐	/ / /
		Vehicle maintenance	Boats	☐	☐	☐	☐	/ / /
			Cars	☐	☐	☐	☐	/ / /

	Utilities	Water	☐	☐	☐	☐	/ / /
		Electricity	☐	☐	☐	☐	/ / /
		Communications (Internet, etc)	☐	☐	☐	☐	/ / /
	Basic equipment	GPS devices, boots, uniforms, machetes, torches, etc	☐	☐	☐	☐	/ / /

				Cost related to knowledge acquisition and environment monitoring	Cost associated with administrative support for stakeholder engagement (training, seminar, meetings, communication tools)	Cost associated with control, regulation/supervision of activities on the MPA	Cost associated with administrative organisation and governance of the MPA	Quantitative distribution between management components OR qualitative description
Investments costs	**Material resources**	**New equipment purchase**	Boats	☐	☐	☐	☐	/ / /
			Cars	☐	☐	☐	☐	/ / /
			Scuba-diving equipment	☐	☐	☐	☐	/ / /
			Other:	☐	☐	☐	☐	/ / /
		Local infrastructure purchase	Local offices for management authority staff	☐	☐	☐	☐	/ / /
			Visitor center	☐	☐	☐	☐	/ / /
			Demarcation buoys	☐	☐	☐	☐	/ / /
			Hiking paths	☐	☐	☐	☐	/ / /
			Other	☐	☐	☐	☐	/ / /
	Studies		Scientific studies:	☐	☐	☐	☐	/ / /
			Socio-economic assessments	☐	☐	☐	☐	/ / /
			Regular ecological monitoring	☐	☐	☐	☐	/ / /
			Management plan definition	☐	☐	☐	☐	/ / /
			Business plan definition	☐	☐	☐	☐	/ / /
			Management plan updating	☐	☐	☐	☐	/ / /
			Business plan updating	☐	☐	☐	☐	/ / /
	Education	**Public training and environmental education**	Meetings	☐	☐	☐	☐	/ / /
			Exhibits	☐	☐	☐	☐	/ / /
			Other:	☐	☐	☐	☐	/ / /
		Staff training:	External training	☐	☐	☐	☐	/ / /
			Internal training	☐	☐	☐	☐	/ / /

	Remediation of the quality of ecosystems	Restoration	☐	☐	☐	☐	/ / /
		Rehabilitation	☐	☐	☐	☐	/ / /
	Compensating measures for local stakeholders		☐	☐	☐	☐	/ / /

FINANCING NEEDS FOR EFFECTIVE MANAGEMENT

The following information will be used to estimate the cost for effective management of your MPA. Effective management is understood here as a level of minimum effort and not as a level of result on the environment.

QUALITATIVE ANALYSIS

Is the current budget sufficient to bring management up to an effective standard of management (confidential)?	☐ The available budget is inadequate for basic management needs and presents a serious constraint to the capacity to manage.
	☐ The available budget is acceptable but could be further improved to fully achieve effective management.
	☐ The available budget is sufficient and meets the full management needs of the MPA.
Is the budget secure (confidential)?	☐ There is no secure budget for the MPA and management is wholly reliant on outside or highly variable funding.
	☐ There is very little secure budget and the protected area could not function adequately without outside financing .
	☐ There is a reasonably secure core budget for regular operation of the protected area but many innovations and initiatives are reliant on outside financing .
	☐ There is a secure budget for the protected area and its management needs.

Does the current (previous) year's funding cover 100% of the operational needs of staff to bring management up to an effective standard of management?	(Choose)
Does the current (previous) year's funding cover 100% of other MPA operational and maintenance needs to bring management up to an effective standard of management?	(Choose)
Does the current (previous) year's funding cover 100% of investment needs to bring management up to an effective standard of management?	(Choose)

QUANTITATIVE ANALYSIS

This part refers to an effective standard of management in terms of effort.

For the next 5 years, please indicate total expenditures, staff and equipment required to effectively manage your MPA. You must take account of your current expenditures in the global estimation. Please indicate in the same case the unit used (euros, FTE, litre, etc).

Please provide details on the use/distribution of resource in the last column.

				How much of the resource would be needed to effectively manage your MPA (per year)?	Quantitative distribution OR qualitative description
Recurrent costs	**Human resources**	**Permanent staff**	Administrative staff		
			Field staff		
			Scientific staff		
		Short-term and seasonal staff	Administrative staff		
			Field staff		
			Scientific staff		
	Maintenance	**Local infrastructure rent/maintenance**	Local offices and visitor center rent:		
			Local offices and visitor center maintenance:		
			Other		
		Vehicle maintenance	Boat fuel		
			Boat maintenance		
			Car fuel		
			Car maintenance		
	Utilities		Water		
			Electricity		
			Communications (Internet, etc)		
	Basic equipment		GPS devices, boots, uniforms, machetes, torches, etc		

				Quantitative description: how much of the resource would be needed to effectively manage your MPA (per year)?	Quantitative distribution OR qualitative description
Investment costs	**Material resources**	**New equipment**	**Boats**		
			Cars		
			Scuba-diving equipment		

			Other:		
		Local infrastructure	Local offices for management authority staff		
			Visitor center		
			Demarcation buoys		
			Hiking paths		
			Other		
	Studies		Scientific studies		
			Socio-economic assessments		
			Regular ecological monitoring		
			Management plan definition		
			Business plan definition		
			Management plan updating		
			Business plan updating		
	Education	Public training and environmental education	Meetings		
			Exhibits		
			Other:		
		Staff training:	External training		
			Internal training		
	Remediation of the quality of ecosystems		Restoration		
			Rehabilitation		
	Compensating measures for local stakeholders				

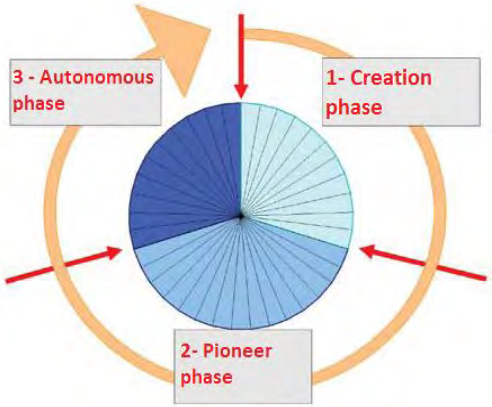
Estimated share of unforeseen expenses (in %) (oils spills, virus, etc)	

COSTS FOR MPA CREATION

The following information will be used to estimate the **cost of establishing your Marine Protected Area**.

The French GEF has proposed a compass card template to monitor three different phases of MPA development (FFEM, 2010). Each phase represents stage in the life of the MPA as it moves from preparation of the MPA project to creation and on towards self-sufficient management and performance. Three stages of development are used: 1) the creation phase (preparation for its establishment), 2) the pioneer phase (development of the MPA), 3) the self-sufficient or autonomous phase (full performance of the MPA in terms of management and financial resources).

Each phase encompasses activities that have cost implications for the MPA. Your MPA has been identified as being in its pioneer phase[31]. It is assumed to have recently completed the main activities of its creation phase. The FFEM compass card template is used to estimate the costs for creation of your MPA based on activities associated with its creation phase.



First, please indicate if you have incurred costs while undertaking activities under the 16 different items of the creation phase. Then, please provide details on the amount of money invested in each activity and its duration.

31 - MPA in the pioneer phase are assumed to be younger than 6 years, with the year of official designation as the starting point.

Typology of costs for MPA creation	Activities in the creation phase of the MPA	A) State of progress	B) Did you incur costs?	C) If yes, associated costs incurred since the start of the activities (in the selected currency)	D) Activity duration[32] (in months)	E) Comments
Costs associated with Policy/legal support for implementation	Official declaration of MPA creation	Please select	Please choose			
Costs related to data acquisition, information and knowledge base development	Natural resources baseline report	Please select	Please choose			
	Socio-economic baseline report	Please select	Please choose			
	Identification of zones of ecological interest	Please select	Please choose			
	Identification of zoning (if applicable)	Please select	Please choose			
	Identification of the protected area perimeter	Please select	Please choose			
Costs related to R&D (studies and surveys)	Identification of stakeholders affected by the MPA	Please select	Please choose			
	Identification of management rules per zone	Please select	Please choose			
	Identification of alternative livelihood projects (optional)	Please select	Please choose			
	Identification of benefit-sharing rules	Please select	Please choose			
Costs associated with the administrative support for stakeholder engagement (training, seminar, meetings, communication	Stakeholder participation process	Please select	Please choose			
	Ownership of the project by beneficiaries	Please select	Please choose			

32 - From the start of the activity to its end.

tools)	Ownership of the project by the authorities	Please select	Please choose			
Costs associated with the administrative organisation of the MPA	Creation of the management body[33]	Please select	Please choose			
	Creation of the management committee[34]	Please select	Please choose			

All the information given in response to this questionnaire will be treated in the STRICTEST CONFIDENCE. We will produce an aggregated analysis of the findings which will be presented to MPA managers during a training on MPA financing in mid-2015.

33 - decision-making structure + operating structure

34 - decision-making structure

11 APPENDIX 4: LIST OF MPAS SELECTED FOR THE LOCAL SURVEY

MPA Name	Country	Development phase	Status	IUCN Category	Marine surface area (km^2)	Total surface area (km^2)	Percentage marine area
Parc National du Gouraya	Algeria	Autonomous	National Park	II	78.42	99.22	79%
Scandola	France	Autonomous	Nature Reserve	IV	6.5	15.69	41%
Réserve Naturelle Marine de Cerbère Banyuls	France	Autonomous	Marine Nature Reserve	IV	6.5	6.5	100%
Site Natura 2000 Posidonies du Cap d'Agde - AMP de la côte agathoise	France	Autonomous	Natura 2000 - SCI	N.A.	22.95	23.17	99%
Zakynthos National Marine Park	Greece	Autonomous	National Marine Park	IV	86.95	104.33	83%
Marine Protected Area of Miramare	Italy	Autonomous	Marine Protected Area	IV	0.3	0.3	100%
Cinque Terre	Italy	Autonomous	Marine Protected Area	IV	45.54	45.54	100%
Egadi Islands	Italy	Autonomous	Marine Protected Area	IV	539.92	539.92	100%
Area Marina Protetta Torre del Cerrano	Italy	Autonomous	Marine Protected Area	N/A	34.3	34.3	100%
Tyre Coast Nature Reserve	Lebanon	Autonomous	Nature Reserve	N/A	0.22	3.8	6%
Landscape park Strunjan	Slovenia	Autonomous	Landscape Park	V	1.5	4.29	35%
Cabo de palos - Islas Hormigas Marine Reserve	Spain	Autonomous	Marine Reserve	V	19.31	19.31	100%
Medes Islands	Spain	Autonomous	Natural Park	N/A	20.38	81.92	25%
Parc Naturel du Cap de Creus	Spain	Autonomous	Natural Park	VI	30.87	139.22	22%
Karaburun-Sazan	Albania	Pioneer	Marine National Park	II	125.7	125.7	100%
Taza National Park	Algeria	Pioneer	National Park	II	96	134.07	72%
Tabarka Marine and Coastal Protected Area	Algeria	Pioneer	Marine and Coastal Protected Area	N/A	1.7	1.7	100%
Les Calanques	France	Pioneer	National Park	II	518	1581	33%
Gökova Bay Special Environment Protected Area	Turkey	Pioneer	Special Environmental Protection Area	IV	820.23	1097.78	75%
Kas-Kekova SEPA	Turkey	Pioneer	Special Environmental Protection Area	IV	165.91	257.83	64%

12 APPENDIX 5: DISBURSEMENTS FROM BILATERAL ODA (CURRENT PRICES, EUROS, 2010-2014)

Country	2010	2011	2012	2013	2014	Total ODA for MPAs	Total ODA Biodiversity-related areas	% of ODA financing for Marine Protected Areas-related activities
Albania	3 566	24 947	1 684	-		30 197	436 300	7
Algeria	118 012	168 720	50 390	343 364	- 17 918	662 569	900 000	74
Croatia	5 298	-	-			5 298	68 000	8
Egypt	106 489	-	-	-		106 489	127 000	84
Israel	-	-	-	-		-	0	
Lebanon	550 535	744 495	79 013	-		1 374 043	3 349 000	41
Libya	-	-	-			-	14 000	-
Morocco	-	27 000	-	25 000		52 000	2 336 000	2
Montenegro	-	-	-	-		-	14 000	-
Palestinian Authority (West Bank and Gaza Strip)	-	-	-	-		-	23 000	-
Syria	-	-	-	-		-	14 000	-
Tunisia	180 114	591 380	362 812	157 921		1 292 227	283 103	456
Turkey	-	-	-	114 279		114 279	1 452 000	8
TOTAL	964 014	1 556 542	493 899	640 564		3 637 102	9 016 403	40

Source: Rio markets database (DAC-OCDE)