BLUEMED

Activity 3.5

Analysis of financial, operational and sustainability models

Deliverable 3.5.1

Sustainability KPIs checklists

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Activity Leader University of Patras

Deliverable Team Atlantis Consulting S.A.

Contents

1. Aim of the Sustainability Key Performance Indicators (KPIs)

According to BLUEMED's project proposal, during Activity 3.5, feasibility studies and operational/management/business models for the establishment/consolidation of Underwater Museums (UMs) and Diving Parks (DPs) will be delivered for all pilot sites. These models will also include KPIs for the measurement of the impact on natural, cultural and economic environment resulted from the establishment/consolidation of UMs and DPs. All the findings will be documented in respective studies (i.e. financial sustainability/feasibility study, Business/Operational Model) and contribute in addressing common issues in preservation, diving services and operation of underwater museums, diving parks and Knowledge Awareness Centers (KACs); these will also be transferable to MED areas with similar characteristics and needs.

A Key Performance Indicator (KPI) is simply a set of quantifiable measures that a company or industry uses to gauge or compare performance in terms of meeting their strategic and operational goals. The process of identifying and measuring KPIs forces business managers to look at what specific actions and behaviors will drive the company towards their set goals. BLUEMED UMs, DPs and KACs are businesses. Their employees represent both an organization's biggest expense and its most valuable asset. This means the company's productivity, and ultimately, its profitability depend on making sure all of its workers perform up to, if not exceed, their full potential. KPIs can be used to assess how successful UMs, DPs and KACs have been in accomplishing their set smart sustainable goals. It is evident that businesses cannot manage what they cannot measure and KPIs help them understand if UMs, DPs and KACs, installed during BLUEMED project, are on the right track for success.

This activity consist of a) The development of that Sustainability KPIs checklists - **D3.5.1 Sustainability KPIs checklists**, in which KPIs checklists will be developed concerning the business performance and operation of Marine Protected Areas (MPAs), UMs, DPs, KACs for sustainability of tourism development of pilot areas. b) Financial Sustainability and Feasibility

3

study - **D3.5.2 Financial Sustainability and Feasibility study for establishment/consolidation of UMs and DPs in pilot sites**, which involves financial sustainability study and feasibility study of proposed/selected/existing business models of Underwater Museums and Diving Parks in BLUEMED pilot sites - c) A business and operational Model - **D3.5.3 Business and Operational Model for establishment/consolidation of UMs and DPs in pilot sites**, which includes the detailed presentation and justification of selected and adjusted Business and Operational Model to be applied under WP4 for the establishment/consolidation of UMs and DPs in BLUEMED pilot sites.

WP5 Leader University of Patras is responsible for development of KPIs checklists supported by Atlantis Consulting.

2.   Strategic overview of BLUEMED project

Project's general description, main objective and targets to be achieved

BLUEMED project is an Interreg MED Modular project implementing under programme's priority axis 3 (natural and cultural resources) and specific objective 3.1 (sustainable tourism). The overall objective of BLUEMED is to: ***"Align/Integrate regional development policies, plans and management practices for Underwater Museums and Diving Parks for a tourism valorization of underwater natural and cultural heritage in accordance with the principles of Sustainable, Responsible, Blue growth"***.

BLUEMED aims to support competent government authorities develop strategies, plans and policies for local coastal and island economies of the Mediterranean region in adopting a sustainable and responsible model for tourism development. This will be achieved by planning, testing and coordinating UMs, DPs and KACs. Main objective are the valorization and protection of underwater natural and cultural heritage in accordance with UNESCO 2001, the raising of public awareness and the tourism attractiveness.

The main focus is on:

a) a process scheme for supplying local/regional authorities with a multi-disciplinary plan (management models, innovative technologies) for UMs, DPs and KACs to be developed in Capo Rizutto, Baia bay, Western Pagasitikos/Sporades and Cavtat sites (policy recommendations, management practices, networking and promotion);

b) promoting innovation in the diving industry and improving divers experience through innovative diving services and technologies;

c) attracting an important part of the increasing number of people who choose diving tourism;

d) introducing the wider public to underwater cultural heritage by means of 3D immersive visualisation in museum exhibitions and KACs;

e) setting up 'Underwater Natural and Cultural Routes in the Mediterranean' web-based platform for a unified tourism promotion and networking of Med underwater natural and cultural heritage sites.

BLUEMED aims to produce diversified and competitive tourism products with distinct local characteristics by adopting a 'place-based' approach. To ensure strong cooperation and added value for the entire Mediterranean area, BLUEMED will pay special attention to the networking of sites and creation of an 'Underwater Natural and Cultural Routes in the Mediterranean' thematic itinerary.

The General Targets aimed to be achieved within BLUEMED:

a) Protect the marine ecosystem of the Mediterranean by aligning planning and implementation of the Integrated Coastal Zone Management protocol, Marine Spatial Planning directive and Green Infrastructure.

b) Help coastal and island economies prosper by adopting a sustainable blue model for development.

c) Protect and preserve in a unified manner the underwater natural and cultural heritage of selected locations of the Mediterranean.

The overall communication objective are to ensure visibility, transferability and replicability of project results throughout the project life-cycle. Project's communication activities will aim at promoting the project's best practices and results to target groups, to reach specific objectives:

5

- ✓ Make and deliver policy recommendations for sustainable&responsible (S&R) tourism development plans/strategies through the valorization of underwater natural&cultural heritage to local/regional/national policy-makers.
- ✓ Deliver process scheme to target local/regional authorities including legislative, planning, management, financial and coordination models and best practices for UMs, DPs and KACs. Raise awareness to the competitive advantage of S&R tourism development with promotion & protection of natural&cultural assets to local communities/civil society/economic actors
- ✓ Contribute to Programme result indicators and policies with KPIs results that measure sustainability in tourism development, environmental and social impact.
- ✓ Set up participatory procedures to include local stakeholders in testing activities. Develop network of regional/local/managing authorities of project partners and associates and active stakeholders of UMs and DPs across the Mediterranean and globally, transfer of know-how and experience of existing successful implementations to/from pilots.
- ✓ Stimulate diving industry development and capacity building.
- ✓ Set forth an 'Underwater Natural and Cultural Routes in the Mediterranean' campaign for increasing visibility of organised UMs, MPAs and DPs in the Mediterranean.
- ✓ Deliver to national/local/regional policy-makers and UMs, MPAs, DPs management authorities and stakeholders, policy papers/business plans that highlight: European Strategy for more Growth and Jobs in Coastal and Maritime tourism, Intergrated Coastal Zone Management (ICZM), Maritime Spatial Planning (MSP), Plan Bleu Sustainable development strategy for the Mediterranean, Accessible Tourism for all, leverage implementation of UNESCO 2001 Convention, Biodiversity and Adaptation EU strategies.
- ✓ Demonstrate innovative technologies and techniques in preservation of underwater cultural heritage in situ, guided diving and underwater recording to local diving industry.

One of main BLUEMED objectives to "contribute to Programme result indicators and policies with KPIs results that measure sustainability in tourism development, environmental and social impact„ is covered by the current deliverable 3.5.1 "Sustainability KPIs checklists„. Due to the provided sustainability measures with KPIs measurements and the design of common methodologies that address priorities of the European Strategy for more Growth and Jobs in Coastal and Maritime tourism, BLUEMED project contributes to integrate principles of the EU Protocol on the Integrated Coastal Zone Management (ICZM), the Maritime Spatial

6

Planning (MSP) Directive, the Green infrastructure (GI), and Plan Bleu strategies for all planning activities. Moreover, sustainability KPI's checklists provide a useful guide to stakeholders in order to preserve and protect underwater cultural resources in situ and as a result to assist the Biodiversity and Adaptation EU strategies in minimizing impact to marine ecosystem and adapting to climate change phenomenon.

3.   Target groups

BLUEMED activities focus on specific target groups. Especially, policy studies and consultations of WP3 activities are addressed to competent government authorities (local, regional and national) with the aim to improve strategies and plans for sustainable and responsible tourism development. Provide to stakeholders the opportunity to implement legislation concerning UMs, DPs and Visitable Underwater Archaeology Areas and their valorization; and to take up and/or approve Operational/Management plans for pilot sites. Design and development of technological solutions for diving tourism and the deployment of KACs are aimed at local economic operators (diving, maritime and tourism industries) and local communities. Relevant research communities for policy, underwater archaeology and underwater engineering, robotics and diving services will be informed through scientific papers in journals and papers and presentations at conferences, workshops and seminars. All reports, protocols, guidelines, etc. delivered in WP3 will be available through project web-platform.

Table shown below lists target groups pre-identified by BLUEMED project proposal and their short description. Finally, the different types of KPI's are organized and related to the variable targets groups of BLUEMED project and especially of Activity 3.5.

Target group	Description	Type of KPI's
Local public authority	Local public authorities and development agencies from the Mediterranean area.	- Economical - Enviromental - Social - Health and safety
Regional public authority	Regional public authorities and development agencies from the Mediterranean area.	- Economical - Enviromental - Social - Health and safety

National public authority	Competent governmental bodies: Ministries and Agencies of Tourism, Development, Culture, Environment etc.	▪ Economical ▪ Enviromental ▪ Social ▪ Health and safety
International organization, EEIG	UNESCO underwater cultural heritage sector.	▪ Enviromental ▪ Cultural ▪ Social ▪ Health and safety
Higher education and research	Universities and research organizations specializing in sustainable tourism development, underwater research, engineering, archaeology, maritime/nautical archaeology, environmental sciences and relevant fields to be presented with BLUEMED outputs.	▪ Enviromental ▪ Cultural ▪ Social
Interest groups including NGOs	Local/regional civil societies and competent NGOs; Museums; Diving Exhibitions; MPAs; UM; DPs.	▪ Enviromental ▪ Cultural ▪ Social ▪ Project management/administative
General public	Local/regional communities, civil societies, visitors and competent NGOs involved, attending, continuing training activities at KACs.	▪ Enviromental ▪ Cultural ▪ Social ▪ Health and safety
Small Medium Enterprises (SMEs)	Local/regional small-medium enterprises and other economic actors offering products and services in tourism, diving and cultural industries, such as local travel agents, diving centers; including also similar actors in pilot locations and BLUEMED partnership countries.	▪ Economical ▪ Project management/administative ▪ Health and safety
Enterprise, except SME	Large-sized enterprises offering products and services in tourism, diving, and cultural industries, such as hotels, travel agencies, hosting	▪ Economical ▪ Project management/administative ▪ Health and safety

	rooms or restaurants.	
Education / training center and school	Knowledge Awareness Centers(KACs) to be developed and deployed in WP4 and WP5.	▪ Economical ▪ Enviromental ▪ Cultural ▪ Social ▪ Health and safety ▪ Project management/administative
Business support organization	Technological Parks, incubators, accelerators hosting, mentoring, supporting start-ups, associations of diving center, hotels, hosting rooms or restaurants associations or associations of travel agencies and new SMEs from tourism, diving, culture sectors with activities in pilot locations.	▪ Economical ▪ Health and safety ▪ Project management/administative
	BLUEMED consortium/partnership and future network of interested parties in the establishment or consolidation of UMs and DPs; Programme INTERREG-MED sectoral agencies, including Horizontal project and Thematic Community.	▪ Economical ▪ Enviromental ▪ Cultural ▪ Social ▪ Health and safety ▪ Project management/administative

4. Performance management in UMs, DPs and KACs

Through BLUEMED project, innovative funding mechanisms for the establishment of a combination of UMs and DPs of an appropriate size will be developed while management models aiming at the sustainability of the investment and of the operation of the UMs and DPs will be provided. Especially, KACs will function as points of information, departure/arrival of diving excursion, and exhibition centers of 3D image and video recordings of pilot sites, systematically aim at minimizing environmental footprint to ecosystem by ICZM, MSP, and impact measurement with KPIs.

BLUEMED goes beyond current practices by using 3D immersive techniques for digitization of natural and cultural resources and exhibiting the collected material in KACs and UMs for non-divers. Moreover, Augmented Diving services for divers based on acoustic localization

9

and inertial navigation will be provided while innovative financial mechanisms/tools will be developed in order to ensure continued and adequate funding for the establishment and management of UMs and DPs.

As BLUEMED aims to build on the existing experience of partners and work done in mapping successful UMs, MPAs and DPs. Through improving the management and the promotion of natural and cultural heritage sites and implementing the existing legal frameworks, tracking the performance of established UMs, DPs and KACs is of high priority UMs and DPs have to track their performance to:

- ✓ create a culture of continuous improvement.
- ✓ develop strategic resource planning/management solutions.
- ✓ identify and mitigate risk on current activity.
- ✓ inform future development.
- ✓ evidence return on investment.
- ✓ demostrate value and supporting costs/benefits.

To achieve strategic management, UMs, DPs and KACs have to develop integrated and holistic management methodologies and indicators which support:

- a) the delivery and evidencing of public value;
- b) the need for accountability;
- c) organisational resilience (resource management);
- d) collections sustainability;
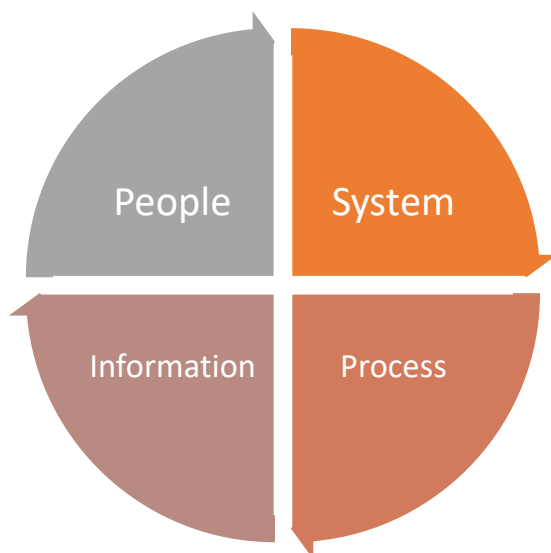
4.1 Conceptual model of an organisation

Figure 1: The conceptual model of an organisation

The conceptual model of an organization is presented to Figure 1. Based on this, people use systems to implement processes which generate information. A holistic view exists as each of these elements acts on the other. Efficiency comes when they exist in balance, while value comes when they are motivated towards an external purpose. Finally, sustainability comes when they can adapt in response to emergent needs.

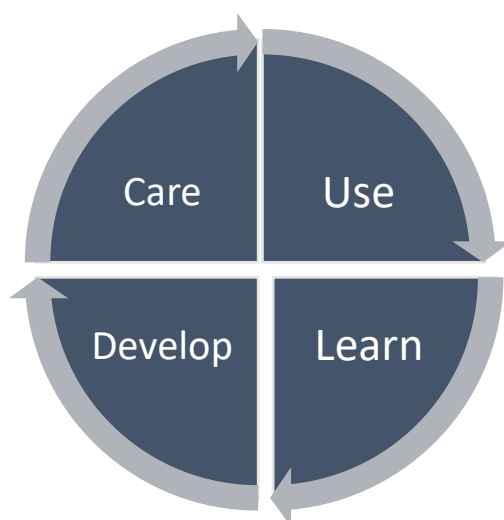## 4.2 Conceptual model of UMs, DPs and KACs functions

Figure 2: The conceptual model of UMs, DPs and KACs functions

UMs have traditionally been presented as a balance between access and preservation. At the same time, cultural value emerges from the interaction of caring for material, acquiring and developing collections, promoting their use and developing new knowledge from them. All the above and their connections are presented to the following structural diagram.
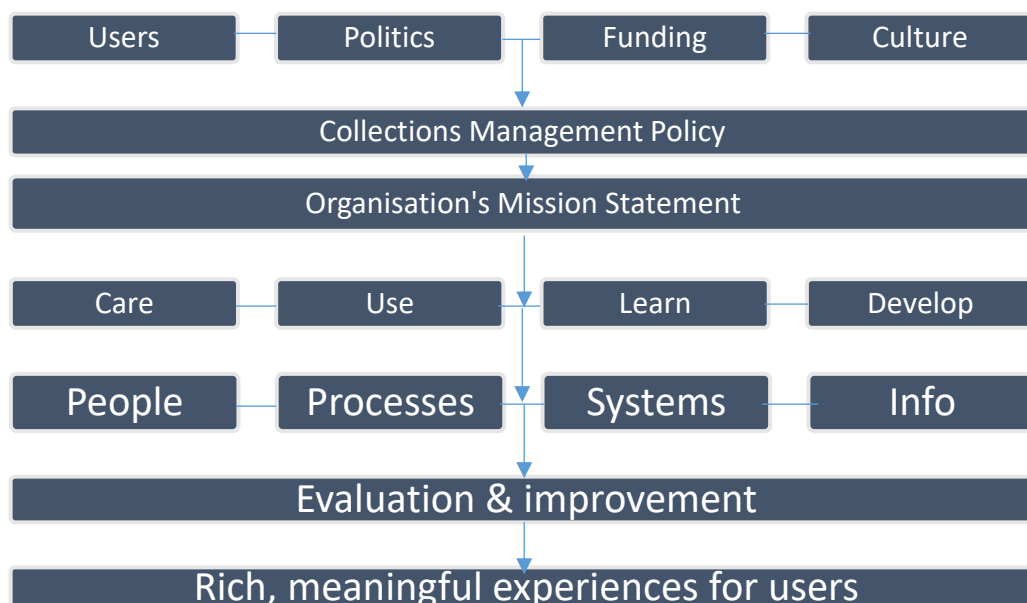

Figure 3: Management framework

To conclude, for establishing sustainable UMs, DPs and KACs, balanced scorecards and KPIs must be used. Managing authorities have to use the proposed impact and value indicators for specific activities (learning, outreach etc.) and quantitative indicators for specific activities, such as web stats. In addition, the performance frameworks need to be proportionate to the scale and complexity of the organization, while emphasis should be put on public value and social return on investment.

5.   Methodology to choose the right KPIs

A KPI is a measurable value that demonstrates how effectively a company is achieving key business objectives. Organizations use KPIs to evaluate their success at reaching targets. Defining the criteria upon the right KPIs will be selected is the first step to be taken.

Specifically, selecting the right KPIs will depend on the industry and which part of that you are looking to track. Different KPI types should be selected to measure success based on specific business goals and targets. Find out what types of KPIs are relevant to UMS, DPs and KACs is the first goal to be achieved.

1. Choose KPIs that are really key

Choose KPIs that will generate the biggest impact. Since it is unlikely to be able to focus on all KPIs, it is proposed to choose only two to three to focus on in each phase that are appropriate for the organizations sustainability maturity level.

2. Choose KPIs that are measurable

KPIs must be measurable, but, choosing factors just because they are easy to measure might lead to negative results.

3. Choose KPIs that regularly change

Some KPIs are important and measurable, but may not change much in the short to medium term. It is more effective to choose KPIs that regularly change to reflect short term progress and provide more timely feedback.

4. Consider industry specific KPIs

Generally, KPIs that are more industry specific are likely to be more useful. Developing a good understanding of what is important to the sustainability of the UM and its audience is of high priority before selecting the KPIs.

5. Choose only a few KPIs

Sustainability projects often have limited budgets, thus the choice of KPIs is restricted and the focus is on the few key KPIS.

6. Choose KPIs that are meaningful to your stakeholders

Different KPIs speak differently to various groups of stakeholders. Choosing KPIs that resonate with your key stakeholders could help gain support for process of measuring.

7. Choose KPIs that connect to the core business strategies

Sustainability KPIs that connect with core business strategies have more synergy and could require less effort to implement.

5.1 Characteristics of good KPIs

In its simplest form, a KPI is a type of performance measurement that helps businesses to understand how they or their departments are performing. A good KPI should act as a compass, helping on understanding whether taking the right path toward business' strategic goals. To be effective, a KPI must:

- ✓ Be well-defined and quantifiable.
- ✓ Be thoroughly communicated throughout organization and its variable departments.
- ✓ Actually be crucial to achieving organisation's goals.

There are a number of general characteristics of indicators that can help to ensure that proposed indicators will be useful and effective. The most important are presented below:

1. **Relevant**

Indicators should be relevant to the organization. One way of ensuring the relevance is to relate the performance indicators to the strategic goals and objectives of the organization or of a specific service area. Indicators should ideally also be relevant to the people providing the data and to the users of the PI, but it may not be possible for a single indicator to be relevant to all users due to differences in perspectives and interests.

2. **Clear definition**

A performance indicator should have a clear and intelligible definition in order to ensure consistent collection and fair comparison. Vague descriptions can lead to misinterpretation and confusion. Additionally, to tight or to broad definitions could also create problems.

3. ***Easy to understand and use***

It is important that indicators are described in terms that the users of the information will understand, even if the definition itself have to use technical terminology. Indicators focused on the public should avoid management jargon or abstract concepts.

4. Comparable

Indicators should ideally be comparable on a consistent basis both between organizations and over time. An essential aspect of the comparability of performance indicators is the inclusion of the context within which the comparison takes place. External and internal circumstances can differ to such a degree that comparison is invalid.

5. Verifiable

The indicator also needs to be collected and calculated in a way that enables the information and data to be verified. The indicator should be based on robust data collection systems, and it should be possible for managers to verify the accuracy of information and the consistency of the used methods.

6. Cost effective

Another important criterion is to balance the cost of collecting information with its usefulness. Where possible, an indicator should be based on information already available and linked to existing data collection activity.

7. Attributable

Service managers should be able to influence the performance measured by the indicator. If this is not the case, the incentives for making an effort to improve performance will diminish and the performance indicators may be regarded as unfair discouraging staff and managers.

8. Responsive

A performance indicator should be responsive to change.

9. Allow innovation

The definition of an indicator ought not to deter organizations from developing innovative processes or coming up with alternative methods, systems or procedures to improve service delivery. PIs should ideally be constructed to allow such innovations take place.

10. Statistically valid

Indicators should be statistically valid.

11. Timely

The PI should be based on data that are available within a reasonable time scale. This time scale will depend on the use of the data. Some data are collected on a weekly or even a daily basis, as they are needed in the operation management of the services, whereas others are available once a year for more strategic and long term purposes.

6.   KPIs checklists

UMs, DPs and KACs have to monitor different types of KPIs. Each department will measure success based on specific goals and targets. The following indicators could be measured for every UM or DP in each BLUEMED pilot site.

1. **Number of visitors during low season months in general:** The number of visitors during low-season is indicative for the successful correspondence of tourist to a new and alternative touristic destination. If the number is increased, the extension of the touristic period in the pilot site will be succeeded.

2. **Number of visitors during high season months in general:** Measuring the number of visitors in high season is useful to get a clear picture of the operation of UMs, DPs and KACs.

3. **Increase in the high season period:** Comparing the above KPIs gives the opportunity to see if an extension of high season in the site has been succeeded.

4. **Increase in arrivals:** Comparing the number of arrivals in different period of a year or in the same month of different years gives the ability to monitor if there is an increase in the number of arrivals in the pilot sites.

5. **Increase in the number of visitors in diving centers:** To measure if there is an increase in the number of visitors in diving centers after the operation of UMs, DPs and KACs, shows that their operation has a positive impact in the regional economic sector.

6. **Number of tickets issued by the KAC:** This measure is indicative of the activities and visits that tourist select during their stay.

7. **Number of dives:** Tracking the number of dives shows if the site attracts more and more visitors, if there are the conditions to import beginners in the diving activities and if the site offers a pleasant experience.

8. **Number of diving centers:** If the number of diving centers is increased, there will be more job opportunities in the region and the touristic sector will be enhanced.

9. **Number of employees in the diving centers, UMs, DPs and KACs**: This measurement reveals the positive economic impact of the operation of UMs, DPs and KACs, as an extended employment sector will be strengthened.

10. **Number of educational visits to the sites by schools, universities and research centers:** Through tracking and analyzing by which organization or educational institution are the majority of visitors, it is provided a better feedback for organizations that are underperforming and that aren't familiar with UMs, DPs and KACs, is provided.

11. **Visits in the websites/social media pages of the diving sites:** Analytics given through websites and social media show if the diving sites are popular and what type of visitors are attracted.

12. **Percentage of response to open positions:** A high percentage of qualified applicants apply for the open job positions shows that maximizing exposure to the right job seekers is achievable. This will also lead to an increase in interviewees.

13. **Employee Satisfaction:** Measuring the level of employee satisfaction through surveys and other metrics is vital to the departmental and organizational health of UMs, DPs and KACs.

To measure enhanced innovation capacity and competitiveness of SMEs operating in underwater heritage sites:

1. **The number of service providers in underwater heritage sites offering underwater cultural heritage tourism products must be measured.**

To measure sustainable growth of pilot sites as cultural tourism destinations:

1. **Tracking the difference in the number of visitors in underwater heritage sites is indicative.**

2. **Measuring the difference in the number of visitors during lowseason months in underwater heritage sites would be helpful.**

Regarding the environmental sustainability of UMs, DPs and KACs, the following indicators are proposed.

1. **Utility consumption:** Tracking electricity, water, and gas consumption of UMs, DPs and KACs, focusing on water and electric use. It would be great to know how much UMs, DPs and KACs are consuming in order to minimize waste.

2. **Waste:** Measuring how much waste in UMs, DPs and KACs is produced is mandatory to guarantee their sustainability. Where the waste goes can really change the "green-ness" of UMs, DPs and KACs. After understanding how much and where it is wasted, managers of UMs, DPs and KACs can make calculated efforts to address these issues.

3. **Efficiency**: Track the efficiency of UMs, DPs and KACs equipment through monitoring their consumption and then comparing this to other available technologies.

4. **Renewable energy sources:** Although renewable energy has been around for a while, it has recently become an individually available target. Investing in zero net energy initiatives for the operation of UMs, DPs and KACs will be useful to reduce their environmental impact. Tracking if renewable electric sources (e.g. solar) or sustainable water tools are used seems mandatory. This measure can be shown as the share of electricity from renewable energy sources as a percentage of total energy consumed.

5. **Recycling**: During the operation of UMs, DPs and KACs, if recycling methods are adopted and if they are used in a daily basis is crucial to be measured.

KPI's checklist for UMs, DPs and KACs

In order to give a more detailed recording of the performance of the UMs, DPs and KACs is needed, an analytic table of more specific indicators follows.

ENGAGEMENTS		
MEMBERSHIP	**Membership Revenue Indicators**	
	Number of Non-corporate Memberships, Revenue and Member Admissions Attendance	Data
	Non-corporate Memberships Percentage of Earned Revenue	KPI
	Average Revenue per Membership for Non-Corporate Memberships	KPI
ATTENDANCE	**Total Visits**	KPI
	Website Visits	KPI
	Child Visits	KPI
	Number of Volunteers	KPI
	Educational Visits and Onsite Activities	KPI
	Overseas Visits	KPI
	Visitor Satisfaction	KPI
	Proportion of Visitors Who Would Recommend a Visit	KPI
	Attendance to Facility Size	
	Gate Admission Attendance and On-site Attendance	Data
	Ratio of Attendance to Facility Sq. Footage and to Exhibit Sq. Footage	KPI
	Ratio of On-site Visits to Building Square Footage	KPI
	Ratio of Gate Admission Visits to Exhibit Square Footage	KPI
	Gate Admission Visits by Category	

	School Group and General Public Admissions as a Percentage of Total Gate Admissions	KPI
	Percentage of Gate Admission Visits by Category: member and free	KPI
	Gate Admission Visits by Category: school, member, free and general public	KPI
EXPENSES	Percentage of Total Expenses by Selected Expense Categories	KPI
	Personnel Expenses	
	Personnel Expenses	KPI
	Personnel Expenses as a Percentage of Total Expenses	KPI
STAFFING	**Staffing Indicators**	
	Number of On-site Visits per Full-time Equivalent Staff Person	KPI
	Operating Expenses per FTE	KPI

7.   Conclusions

The subjects of Deliverable 3.5.1 is the development of sustainability KPI's checklists for the operational, management and business models to support the establishment and consolidation of UMs, Ds and KACs. The proposed KPIs focus on the following priorities: economical benefit, economic sustainability, environmental impact and staff issues.

These kind of indicators are transferable to Mediterranean areas with similar characteristics and needs and can be implemented in other UMs, DPs and KACs, operating in other areas except from BLUEMED pilot sites. The collected data, through the proposed KPIs checklists, will be used for the following steps of presentation and justification of selected and adjusted Business and Operational Model to be applied for the establishment and consolidation of UMs, DPs and KACs.