UN environment programme

Mediterranean Action Plan
Barcelona Convention

PAP/RAC

Assessment criteria and the Guiding document for application of assessment criteria for the IMAP Common Indicator 16

December 2021

Funded by the European Union

Assessment criteria and the Guiding document for application of assessment criteria for the IMAP Common Indicator 16

Deliverable:

Final Guiding document for the application of assessment criteria regarding the IMAP Common Indicator 16 on coastline

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Place and date:

Ljubljana, December 2021

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1 INTRODUCTION

This document is related to the development of assessment criteria and the Guiding document for the application of the assessment criteria regarding the Integrated Monitoring and Assessment Programme (IMAP) Common Indicator (CI) 16 **"Length of coastline subject to physical disturbance due to the influence of human-made structures"**. Development of such criteria will assist countries in implementing the monitoring of the CI 16, especially in terms of the definition of good environmental status (GES) regarding this indicator, and in preparing the assessment of changes between the sets of data reported for this indicator.

The Guiding document is meant to be support to the national implementation of the Coast and Hydrography Cluster of IMAP, and is in close relation with the project *"Support to Efficient Implementation of the Ecosystem Approach-based Integrated Monitoring and Assessment of the Mediterranean Sea and Coasts and to delivery of data-based 2023 Quality Status Report in synergy with the EU MSFD",* i.e. the EU-funded EcAp MED III project. The EcAp MED III project will support the implementation of IMAP and the data-based 2023 Quality Status Report in line with 2023 MED QSR Roadmap milestones at national, sub-regional and regional levels, with a focus on southern Mediterranean countries, namely: Algeria, Egypt, Israel, Lebanon, Libya, Morocco and Tunisia. The preparation of the Guiding document is closely related to EcAp MED III specific activities a) "Update/upgrade and develop assessment criteria using trend and threshold approach as appropriate for CIs already included in the IMAP Info System" and b) "Develop guiding documents for the application of assessment criteria, thresholds and baseline values for all IMAP clusters at the national level".

The establishment of the assessment criteria will assist countries in the future assessment of GES regarding the CI 16. Specific considerations of what needs to be taken into account when performing such an assessment are elaborated in this output. In brief, with the help of this output each country will be able to define, as objectively as possible, the GES for the CI 16 using the trend and threshold approach. The assessment of GES for this indicator will strongly rely on the trend of the share of artificialized coastline, i.e. 6-year monitoring cycles as set in the Indicator Guidance Factsheet (UNEP/MED WG.467/6, 2019).

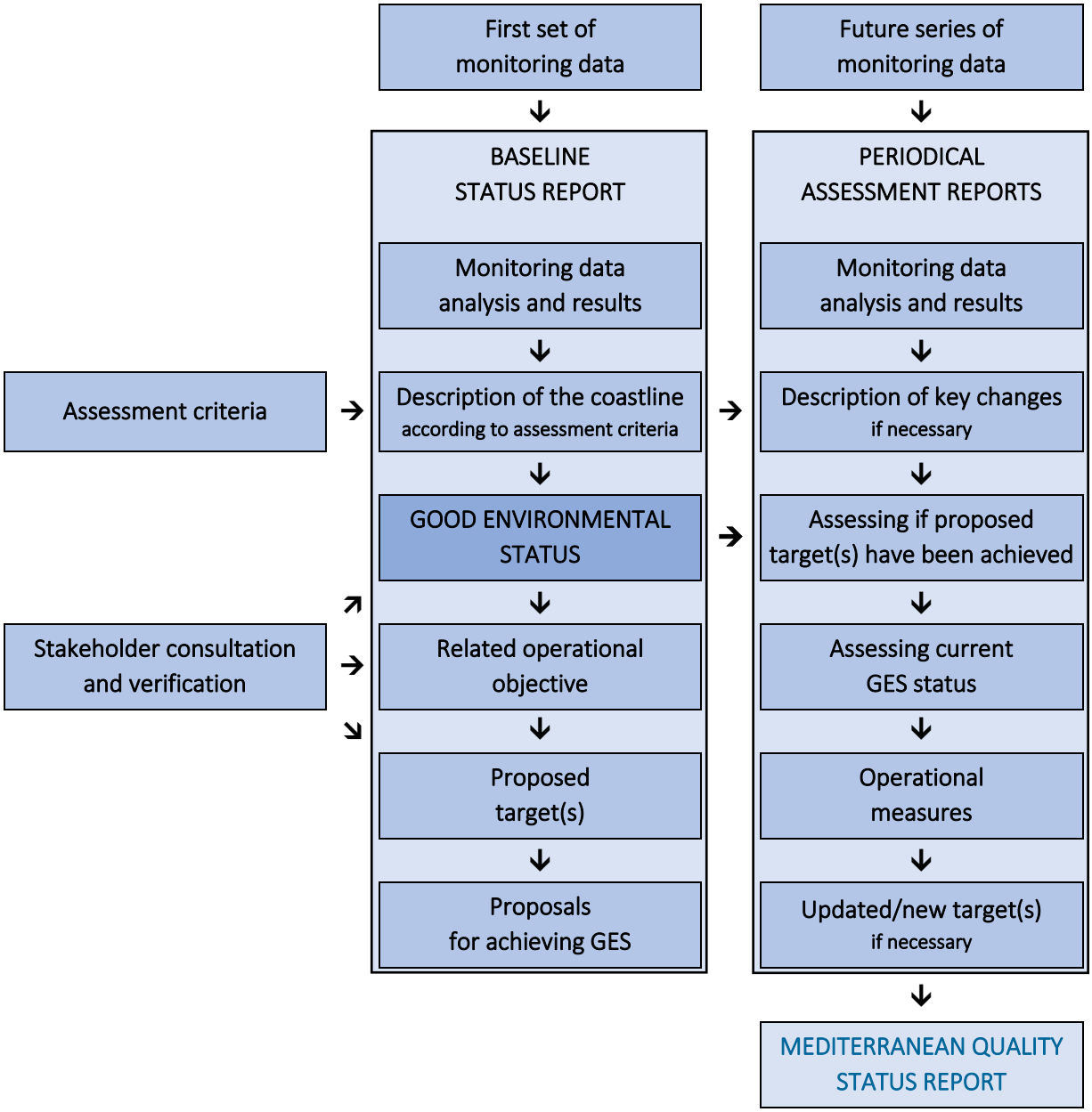
On the basis of these assessment criteria countries will be in a position to prepare the **Baseline status report and specify GES, the related operational objective and the proposed target(s)** for their coastline once the **first set of monitoring data** is provided (see Figure 1).[1] The GES in the Guidance Factsheet has been defined in a descriptive manner – "Physical disturbance to coastal areas induced by human activities should be minimized", whereas the proposed target reads as „Negative impacts of human activities on coastal areas are minimized through appropriate management measures". However, a more objective definition should be proposed, which is country specific.

All **future sets of monitoring data** (6–year cycle) will allow **periodical assessments**, i.e. whether the coastline has been further developed or it has stayed within GES, and whether individual targets have been achieved. For the areas where the human-made structures on the coastline have been developed

[1] Some countries have already prepared reports based on the first set of monitoring data. The relevant contents of these reports should be used for the preparation of the Baseline status report as required by this Guiding document.

at a rate that is no longer within the GES definition, countries will, during the assessment stage, justify such situations by using the assessment criteria. Also, country-specific **operational measures** to maintain/achieve GES and **updated/new target(s)** (if necessary) will be defined based on the assessment results. The assessment results will be used for the preparation of the **Quality Status Report** (QSR) of the Mediterranean Sea and its coastal areas.[2]

Figure 1: **The flowchart of the CI 16 assessment**



[2] COP 19 (Athens, Greece February 2016), provides for the development of six-yearly Assessment Reports of the Status of the Mediterranean Sea and Coast to demonstrate the progress made towards Good Environmental Status and its related targets, as part of the Integrated Monitoring and Assessment Programme (IMAP) (Decision IG.22/7). COP 20 (Tirana, Albania, December 2017) requested the Secretariat to deliver the 2023 Mediterranean Quality Status Report (Decision IG.23/6).

To summarise, the purpose of this document is to prepare the assessment criteria and the Guiding document for the application of the assessment criteria regarding the CI 16 on coastline. The Guiding document follows the Indicator Guidance Factsheet, Data Standards and Data Dictionaries for Common Indicators related to Coast and Hydrography (UNEP/MED WG.467/10, 2019), as well as some reference documents regarding the GES assessment. It is developed as a step-by-step tool and comprises:

- The proposal of the **assessment criteria**,
- Suggestions on how to prepare the **Baseline status report of the coastline and specify GES** once the first set of monitoring data is provided,
- Instructions on how to prepare **the periodical assessment reports** based on the application of assessment criteria once future series of data sets for this indicator are reported.

The Assessment criteria and the draft Guiding document were presented at the CORMON meeting (videoconference on 25 November 2021) for comments and suggestions. The final Guiding document for the application of assessment criteria regarding the CI 16 on coastline is upgraded according to the Report of the meeting (29 November 2021) and will be tested in EcAp MED III project eligible countries.

2 ASSESSMENT CRITERIA

2.1 Background

Assessment criteria are intended:

- to prepare the Baseline status report, explaining the rationale for building human-made structures and preserving natural coastline;[3]
- to define GES, the related operational objective and the proposed targets(s) by using the first set of monitoring data;
- to prepare the assessment report after the second (and the following) set of data from monitoring has become available, in order to justify situations where human made structures on the coastline have been developed at a rate that is no longer within the GES definition, and to illustrate areas where improvements of the coastline state where achieved.

The assessment criteria are closely related to the GES definition, the related operational objective and the proposed target(s). They should be focused on circumstances that define the status of the coastline and, therefore, derive directly from the findings according to the individual assessment criteria. Some proposals on how to draft the country specific GES, the related operational objective and target(s) are given in chapter 3.4. Some possible targets according to the individual assessment criteria are given in the next chapter.

2.2 List of possible assessment criteria

A wide set of possible assessment criteria that could potentially influence certain baseline/trends and for the GES assessment are elaborated and justified in this chapter. Some examples are provided to illustrate the criteria. A draft set of possible assessment criteria is listed below. For each of the criteria a brief description is given (causal link) to be highlighted in the assessment, as well as possible targets that can be derived from them.

The list of possible assessment criteria (elements to consider) is meant to be a sort of a reminder, and is flexible for the Contracting Parties (CPs) which may find some of the assessment criteria less relevant or completely irrelevant. **The countries should only take the most relevant ones, reasonably combine the listed ones and/or use additional ones.** The purpose of the assessment report is not to prepare a "lexicon", a comprehensive and in-depth description of the state of the coastline, but only to highlight the information relevant for the definition of GES and for understanding the framework for managing human-made structures.[4]

[3] The assessment criteria, therefore, do not need to be elaborated separately, but should be applied directly in the Baseline status report.

[4] The assessment criteria used, the structure and scope of the Baseline status report including GES will differ from one country to another, e.g. Slovenia with a very short coastline, Greece with many islands or Libya with a more uniform coast. It is important, however, that the reports are prepared on the same methodological basis, which will enable assessment and determination of measures at the Mediterranean level.

The list assumes:

- that some criteria serve primarily to describe the situation, while from others it is possible to derive concrete targets for future action as well;
- that not only the facts on the coast should be assessed, but also the socio-economic, regulatory and professional framework that indirectly affects the extent and characteristics of human-made structures and GES;
- that not only the extent of human-made structures and their share of the total coastline matters, but their distribution and adequacy as well.

Within each criterion, **the state, key pressures and trends** that may affect the increased range or characteristics of human-made structures should be recorded in a meaningful way. Where possible, **quantitative data** should be added.

1. Geographical setting

Possible assessment criteria (elements to consider):

- the size of the country vis-à-vis the country's coastal area
- the geostrategic importance of the coastal area
- geomorphology and other coastal landscape characteristics
- extent and problems of natural processes such as coastal erosion
- sea-level rise and impacts of coastal flooding

The coastline should be studied within the **broader context** of the country and the wider region. It is necessary to understand the nature and significance of the considered coastal area, its functional/influential hinterland, and the current and future pressures.

The **geostrategic importance** of the individual/considered part of the coast should be taken into account. It should be borne in mind that some areas have been developed throughout the history, especially for ports and fortresses in geostrategic locations, for instance. Some of them take on some sort of global responsibility and "sacrificing" the natural coastline in order to enable the economic development of the wider region.

The geological and geomorphological **characteristics** of the coast, its indentation, landscape types, accessibility and settlement characteristics should be considered. Areas that prevent encroachment and access to the coast, such as cliffs and marshlands, should be highlighted. Also, the cases where sandy or pebble beaches are rare, and the local government and tourist resorts decided to concrete and level the rocky coast in order to provide citizens and tourists with easier access to the sea could be explained. Another element to consider is the creation of public spaces such as promenades (lungomare) which are of higher importance.

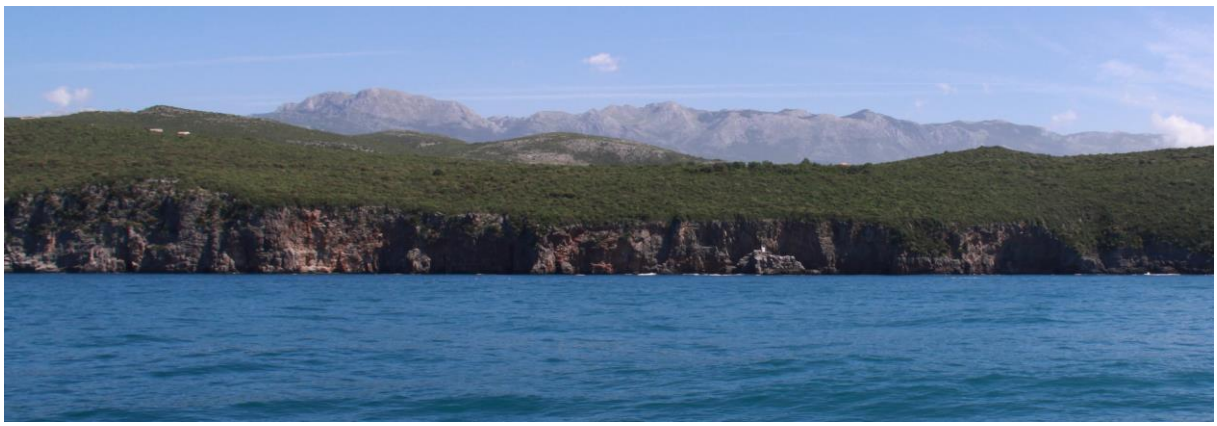


Figure 2: **Steep natural coastline with no access to the sea** (Platamuni, Montenegro, A. Mlakar)

The assessment of the **ratio between the built-up and naturally preserved coastline** should be placed in the context of coastal characteristics. Uninhabited islands contribute greatly to the share of the naturally preserved coast, and statistically compensate for the problem of intensive changes in other parts of the coast.

The problem of natural processes such as **coastal erosion** should be described. The erosion prevention measures – in order to protect natural/landscape features and human-made assets – can be a justifiable reason for the increased extent of human-made structures. An attempt could be made to assess the extent of the areas and locations where such measures are expected to be implemented.

Figure 3: **Example of erosion prevention measures presented publicly:** public communication and education on coastal zone management is very important (Cavalière, Le Lavandou, France, A. Mlakar)

The circumstance that will have the greatest impact in the future on the increased extent or change of the already built human-made structures is certainly the **sea-level rise**, together with the increased extent of storms and high tides. The description of the baseline could take into account an assessment of the expected effects of the sea-level rise and, consequently, measures will have to be taken along the coastline. If the country has not yet prepared such an assessment, its preparation and strategy for adapting to the sea-level rise are strongly recommended.

Figure 4: **Sea-level rise analysis** (Bay of Kotor, Montenegro, Harpha Sea, 2013)

Possible targets:

- the share or length of the coastline that should remain in its natural state in the long term
- the maximum share or length of the coast that can be artificialized in the next 6-year cycle
- conservation of naturally preserved and/or valuable landscape areas (location-based)
- implementation of anti-erosion measures (location-based, with guidelines for their planning)
- preparation of a strategy for adapting the coast to the sea-level rise and preventing the impact of coastal floods

2. Historical and cultural connotations

Possible assessment criteria (elements to consider):

- historic development in the coastal area
- existence of traditional human-made structures
- the country's spatial development culture (including the extent of illegal construction)

The characteristics of the **historical development** of the coastal area should be taken into account. It is necessary to understand the past political, military and economic conditions that have decisively influenced the characteristics of the coast. The image of the shores of the Mediterranean was already strongly influenced by the Roman Empire, for example. Such circumstances are especially pronounced in the areas of the so-called maritime republics (e.g. Venice, Genoa, Pisa, Amalfi, Dubrovnik), and in later periods the formations developed by the countries with highly developed maritime orientation, such as the Austro-Hungarian Empire.

Attention should be paid to cultural heritage areas, old seafront towns, resorts rich in history, traditional forms of ports, fortifications, traditional saltpans, and alike.

The **tradition and culture of spatial planning** of coastal areas is another important element to consider. Some countries have a historical experience of comprehensive spatial planning and integrated management, including formal management instruments (e.g. land policy measures) and specific respect for coastal development, while others are still raising awareness of the importance of these instruments and the values of the coastal areas. Some attention could be paid to possible obstacles to the implementation of international commitments, and possible solutions should be suggested.

Figure 5: **Old seafront town** (Saint-Florent, Corsica, A. Mlakar)

Figure 6: **Traditional saltpan** (Sečovlje, Slovenia, M. Prem)

Problems such as illegal construction, spontaneous individual building (instead of comprehensive and collective one), construction aimed at maximizing economic effects (without taking into account the public interest) could be considered, as well.

Possible targets:

- preservation/rehabilitation of historical arrangements (heritage areas)
- raising awareness of spatial culture: education, awareness-raising activities, promoting good practices, improving stakeholder participation, improving regulations, more effective inspection, enforcement instruments
- increasing the effectiveness of mechanisms such as strategic environmental assessment

3. Socio-economic context

Possible assessment criteria (elements to consider):

- demographic situation, degree of littoralization
- level of development, development needs
- artificialization due to activities like fishing, tourism, ports and harbours, shipyards

A general description of the socio-economic situation, the development level of the coastal region, demographic characteristics and degree of littoralization are important criteria. Expected pressures

and the related development needs could be described. The efforts to transfer development to the hinterland with the aim of relieving the coast could be taken into consideration.

Less developed countries and their efforts aimed at economic growth and improvement of living conditions may be the reason for greater interventions in the coast as opposed to more developed countries which have already reached a satisfactory level of development in the traditional sense. They should limit the development trend of coastal areas if they want to maintain the extent and the value of a naturally preserved coastline as an element proving the high development status.

The description could be made of the past artificialization due to activities such as fishing, tourism, ports and harbours, and shipyards that had to be developed along the coast, and attention could be paid to (former) production, storage or military areas for which it would make sense to restructure and/or relocate to the hinterland, and thus relieve the coast or free up space for more suitable activities.

Figure 7: **Waterfronts should be primarily for public use** (Trogir, Croatia, M. Prem)

Possible targets:

- revision of development priorities
- ensuring public interest
- restructuring of degraded or underutilized areas along the coast
- directing investments in spatially and environmentally appropriate and socially acceptable areas

4. Land use and protected areas

Possible assessment criteria (elements to consider):

- characteristics of land use and spatial implementation conditions along the coastline
- extent of protected areas with protection regimes that prevent changes of the natural coastline

The provisions of spatial planning acts can provide information on how land use is determined, especially the extent of the land reserved for construction, including verification if the 100 m setback (part of the coastal zone where construction is not allowed according to the Article 8 of the ICZM Protocol) has been established. It should be checked whether the acts regulate the construction of human-made structures, restrict construction in areas important for biodiversity conservation or

valuable landscapes, if conditions for their implementation on the basis of professional expertise and environmental assessment are requested.

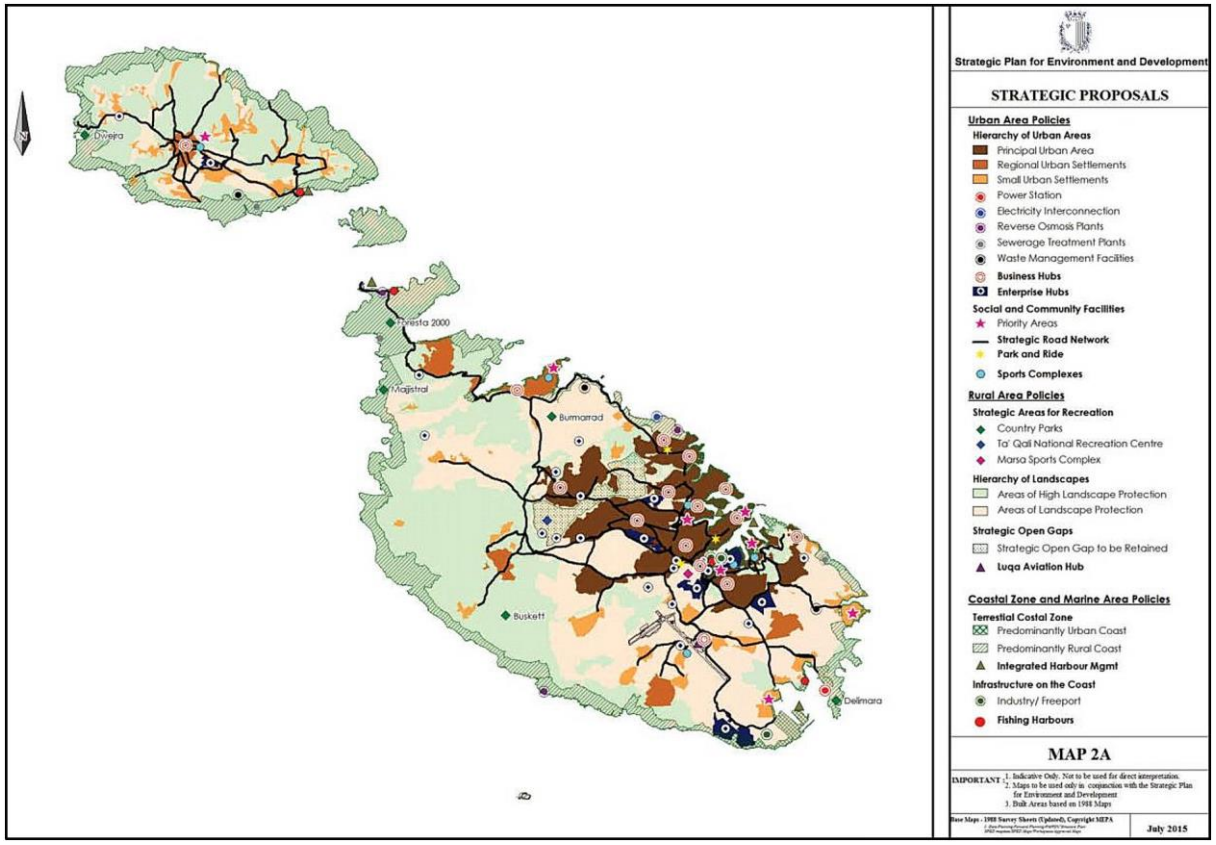


Figure 8: **Strategic Plan for Environment and Development:** Strategic Proposals (Maltese Islands, 2015)

Countries are not expected to undertake a detailed analysis of all relevant spatial planning acts for the purposes of reporting under this Indicator, as that would be a very time-consuming task. However, it is necessary to understand their suitability and effectiveness, as it is the solutions adopted by the spatial acts that have a decisive influence on changing the coastline. Therefore, countries are advised to systematically introduce the current doctrine of coastal zone management, including the regulation of coastline, into amendments and new generations of spatial planning acts.

The extent of marine and coastal protected areas and how they regulate the change of the natural coastline should be considered (protection regimes, management measures).

Possible targets:

- amendments to existing spatial planning documents or preparation of new ones aimed at a better regulation of human-made structures
- increased coverage of marine protected areas, the protection regime which also applies to coastal management and the coastline

5. Characteristics of human-made structures

Possible assessment criteria (elements to consider):

- types of human-made structures
- distribution of human-made structures
- adequacy of implemented and planned human-made structures (environmentally friendly and well-designed or very technical in style and with limited or non-added value solutions, lessons learned)
- extent of coastline restoration and renaturation

The Data Standards and Data Dictionaries for Common Indicators related to Coast and Hydrography (UNEP/MED WG.467/10, 2019) impose a record of the following types of human-made structures:

- Breakwaters
- Seawall/Revetments/Sea dikes
- Groins
- Jetties
- River mouth structures
- Ports and marinas

Along with the analysis of monitoring data, the types of human-made structures should be illustrated by typical situations, and borderline examples could be highlighted. The basic characteristics and problems of each type could be elaborated.

In addition to assessing the size and share of structures, the analysis of their distribution is also very important. In some places, the extent of individual built structures may not be large but their high density gives the impression that a large part of the coastline has been ruined. The assessment should therefore also take into account the synergistic impact that arises when the impacts of several structures exceed the sum of their individual impacts. An active coastal management practice should ensure meaningful compaction or dispersion of such structures. It is also important to keep larger parts of the coast completely natural, with no human-made structures.

Figure 9: **A single pier may not represent a major impact, but a whole set of them means a degradation of the entire coastline and makes it unattractive for bathers** (Banjol, Rab Island, Croatia, Google maps, 2021)

The fact is that we will continue to lose the naturally preserved coast in the future and that the indicator 16 is basically intended to monitor this loss in order to slow this process down or limit it to parts of the coast where this is inevitable. However, countries should not be passive monitoring providers but should strive to optimize structures into environmentally friendly and aesthetically more sophisticated forms, and transform inappropriate existing solutions by rehabilitation.

The adequacy of human-made structures, therefore, needs to be critically assessed. This does not mean that countries have to map or analyse individual solutions. The starting point is to monitor the situation within reasonable costs and time. However, one of the purposes of the Baseline status report and periodical assessment is to critically assess typical built or planned structures, i.e. to record bad solutions, learn from them and avoid constructing them in the future, and especially to recognize innovative solutions and use them as good practice to propose measures to achieve GES.

Figure 10: **Landscape-architecturally shaped human-made structure** (Parc dels Auditoris, Barcelona, A. Mlakar)

Figure 11: **Examples of environmentally friendly seawalls** (Environmentally Friendly Seawalls, 2009)

Possible targets:

- increased range of environmentally friendly and well-designed structures
- comprehensive landscape arrangements of the coast
- testing of innovative structures
- prevention of uncontrolled dispersion of coastal structures, preservation of the integrity of naturally preserved areas

6. International (regional) policies and directives

Possible assessment criteria (element to consider):

- implementation of international (regional) policies and directives

The way how international (regional) policies and directives (such as the ICZM Protocol of the Barcelona Convention, Convention on Biological Diversity - CBD, Ramsar Convention, some EU directives for the EU Member States such as Bird/Habitat, Natura 2000) are considered in the national legislation and other instruments should be paid attention to, i.e. how these are taken into account and implemented.[5]

Possible target:

- better implementation of international (regional) policies and directives through national legislation

7. National policies regarding spatial development and national environmental policies

Possible assessment criteria (elements to consider):

- involvement in addressing the problem of physical disturbance due to the influence of human-made structures
- adequacy of implementation in subordinate (spatial planning) acts

The relevant documents in the field of spatial planning (spatial development strategy/policy, landscape strategy/policy, other relevant sectoral policies) and environmental protection (environmental action plan, climate plan) should be analysed - if and how these address the problem of physical disturbance due to the influence of human-made structures. It is important that the starting points for maintaining the coastline are defined in the strategic documents and that these provide support for their operationalisation at hierarchically lower levels.

It should be verified whether the provisions of the national policies are properly transposed into subordinate acts, in particular spatial planning acts at different administrative levels. If, for example, the country has already adopted a marine spatial plan, the provisions related to the construction of human-made structures or coastline management in general should be critically evaluated.

Possible target:

- better addressing of physical disturbance due to the influence of human-made structures in national policies regarding spatial development and national environmental policies

[5] E.g. if 100 m setback according to the Article 8 of the ICZM Protocol is implemented.

Concept of spatial development of the Slovenian sea /.../ Areas for activities that are connected to the sea and coastline, but present a burden from the environmental and spatial (changing the natural coast or coastline that prevents direct access to the sea) aspects or the aspect of preserving the views of the sea and nature conservation are limited. /.../ The usage of naturally preserved parts along the coastline is limited to bathing and access. /.../

Nature conservation /.../ Protection of the naturally preserved coastline is a priority. This includes three long sections /.../ These are the only remaining areas of the naturally preserved coastline where natural processes and connections between the types and associations of marine drizzle area, tide zone and real coastal zone below the lowest ebb limit are still almost entirely preserved. In sections of the naturally preserved coastline it is forbidden to perform any type of development work, except for work that is expressly permitted by this Plan. /.../

Urban development /.../ In the areas (activities) of urban development of towns and settlements, the following facilities, development and measures related to the sea are permitted: /.../

- facilities and development related to the protection of the coast against sea influences;
- facilities and development related to the protection against the consequences of global warming and the rising of the sea surface level; /.../

Concept of spatial planning in the coastal strip: Common guidelines, permissible usages and spatial interventions /.../ In all spatial planning units (SPUs) in the coastal strip on land and the coastal strip at sea, the Maritime Spatial Plan stipulates the following:

- Free access to the sea and free navigation along the coastline in all parts of the coastal strip needs to be ensured, and all existing walking paths are preserved and maintained.
- Construction of facilities is not permitted, except for facilities of public service infrastructure in accordance with relevant legislation and facilities planned with other provisions of this Plan. /.../

Guidelines, permissible usages and permissible spatial interventions by individual spatial planning units /.../ Sečovlje salt pans /.../ Permissible usages:

- salt production, development and presentation of nature conservation and cultural heritage, education, research, sustainable tourism, education and training at sea;
- establishing a protected marine area along the estuary of /.../

Measures for implementation /.../ The coastal strip at sea has been determined with this plan. The scope of the coastal strip on land is determined by the local communities in spatial acts. It has to be adapted to the existing legal regimes, the preservation of natural and cultural landscape and coordinated with the provisions of this plan. /.../

Figure 12: **Example of coastline regulation within a Maritime Spatial Plan**: construction of human-made structures and coastline management should be addressed in all relevant parts of the plan – from concept/goals, trough individual development and protection aspects and guidelines (common and specific by individual spatial planning units), till implementing measures (Maritime Spatial Plan of Slovenia, 2021)

3 BASELINE STATUS REPORT and specification of good environmental status (GES)

The Baseline status report of the coastline can be established once the first set of monitoring data has been provided. The focus of the baseline status report should be on **the application of the assessment criteria** elaborated in the previous chapter that would enable to determine GES, the related operational objective and proposed target(s). The report should comprise the chapters as follows.

3.1 Introduction

The background information and the context of the Baseline status report should be explained (with references to the Barcelona Convention and IMAP), together with the information on the recent state of monitoring of the CI 16 or similar data regarding coastline monitoring in the country. Also, the purpose and the objective of the Baseline status report should be briefly described, as well as the reference to the methodology presented in this Guiding document, together with an explanation of the relevant assessment criteria used.

3.2 Monitoring analysis and results

A monitoring analysis should be prepared according to the indicator Guidance Factsheet (UNEP/MED WG.467/6, 2019) and Data Standards and Data Dictionaries (UNEP/MED WG.467/10). The analysis comprises the following:

- short/general **description of the coastline** analysed;
- description of the **method and input data** used for the analysis (difficulties encountered while monitoring, if necessary);
- **monitoring results** (i.e. kms of artificial coastline and % of the total length of the coastline, percentage (%) of natural coastline in the total coastline length), including description of the type and amount of artificial structures (Breakwaters; Seawall/Revetments/Sea dike; Groins; Jetties; River mouth structures; and Port and marinas), tabular and graphic presentation;
- **conclusions** (experiences).

3.3 Description of the coastline

The Baseline status report should include a description of the coastline characteristics according to the assessment criteria (see chapter 2). This is not just a description of the features, but their analytical/critical review i.e. preparation of the basis for GES justification. It is important to explain the background for the current/reference state of the coastline – construction of human-made structures in the past and efforts aimed at preserving the natural coastline.

Explanations should be short and concise, based on publicly available data. The purpose of the report is not to prepare a "lexicon", a comprehensive and in-depth description of the status, but only to highlight information relevant for the definition of GES and for understanding the frame for managing human-made structures. The purpose of the analysis, e.g. historical and cultural connotations, is not a

description of the historical development by historical periods, but only to highlight those historical circumstances that had significant impact on the transformation of the coastline and that are important to understand the current status and the future trends.

Within each criterion, the state, key pressures and trends that may affect the increased extent or characteristics of the human-made structures should be reasonably recorded. Where possible, quantitative data should be added. Key examples should be graphically illustrated.

The Baseline status report should be prepared in such a way that the description is summarized around the **major characteristic and relevant conclusions** that are crucial for the determination of GES, the related operational objective and proposed target(s).

3.4 GES definition, related operational objective and proposed target(s)

Based on the above analysis, the Baseline status report should define and justify country specific:

- GES,
- The related operational objective, and
- Targets(s).

GES definition, the related operational objective and the proposed target(s) are defined in general terms in the Indicator Guidance Factsheet, as follow:

Relevant GES definition	Related Operational Objective	Proposed Target(s)
Physical disturbance to coastal areas induced by human activities should be minimized.	The natural dynamics of coastal areas is maintained and coastal ecosystems and landscapes are preserved.	Negative impacts of human activities on coastal areas are minimized through appropriate management measures.

The Guidance Factsheet states that "GES, targets and measures cannot be expressed quantitatively (as a threshold value) but due to country specific circumstances (socio-economic, cultural, historical) should be defined by the countries themselves. In doing so the CPs should take their spatial development and planning policies into account, as well as the legal obligations of the Barcelona Convention, in particular the ICZM Protocol. The above GES definition and Proposed target(s) are just examples." This Guiding document will assist in specifying the country-specific GES, operational objective and target(s).

For individual countries with a very long and diverse coastline (e.g. Italy, Greece) it may result impossible to define a single GES and operational objectives. Also, in such cases the targets would be rather general (valid for the entire coast) as well, without specific ones (location-based). In order to avoid this, the CPs will have the flexibility **to divide the coastline into reasonable sections**, taking into account the specific circumstances of individual spatially and functionally defined areas. The division into sections should take into account the characteristics of the coast (geomorphological

characteristics, parts with predominantly naturally preserved and predominantly urbanized coast) or geographical areas (coast of the continent and islands), for example. It also makes sense to adapt these sections to the boundaries of **administrative areas (regions)** within which the relevant level of spatial planning and coastal zone management exists. In this way the efficiency is increased of the monitoring and operability of the Baseline status report, as well as the preparation of periodical assessments. A better understanding of the results, focused operational measures and the effective involvement of local stakeholders might also be easily provided. In the case when a CP divides the coastline into sections, it should nevertheless provide basic information of the baseline status at the country level, as well as a comparison between different parts of the country.

When a country defines the baseline situation with the results of the first monitoring data, justification by the application of the assessment criteria, taking their policies and other obligations to the coastline development and conservation into account, it will be able to give more concrete definitions of GES. If the GES definition and the Related Operational Objective are still more general or expressed as a declarative statement of an individual country regarding the future status of the coastal area, the proposed target(s) should be more concrete and focused on individual circumstances that define the status of the coastline. **They, therefore, derive directly from the findings according to the individual assessment criteria**.

Targets are roughly divided into:

- long-term, more general targets that the country continuously pursues to achieve GES, and
- short-term, action-specific targets on which the country focuses its efforts in a particular 6-year cycle towards GES, e.g. rehabilitation of a certain part of the artificially built coastline, implementation of more sustainable projects that contribute less to the artificialization of the coastline, improving the legal framework that can help achieve GES, and alike.

The countries could combine long- and short-term targets that are realistically achievable within the time frame.

Targets can also be quantified, e.g. by the proportion of the coastline that shall remain in the natural state in the long term, by the maximum share or length of the coastline that may be artificialized in the next 6-year cycle, or by the extent of the existing human-made structures to be re-naturalised during this period. The use of quantified targets has both advantages and disadvantages, so they should be used as appropriate. The advantages of quantified targets are in the ease of use and assessment, and the disadvantages are in the lack of adaptation to the characteristics of an area and the current needs of the society. Their use depends mainly on the information available and the extent of uncertainty associated with their correct definition. However, in some environments, owing to a clearly defined threshold value, such an approach can be more successful in managing pressures that change the coastline, especially where interventions cannot be optimized through the spatial planning process, EIA and similar instruments.

In the case of the use of quantified targets, these should be placed within the timeframe of their realization. If, for example, a country determines that it is permissible to artificialize 5% of the coast over the following 30 years, it would be wrong to exploit this limit already in the first 6-year period.

Defining GES, the related operational objective and the proposed target(s) for this indicator is a policy decision and could require extensive deliberations among the relevant stakeholders. The CPs should define GES within country specific stakeholder consultation and verification process.[6]

3.5 Proposals for achieving GES

The Baseline status report should identify the main problems related to the coastline and propose solutions, in particular pointing out which pressures and trends need to be paid particular attention to in order to achieve GES. The baseline report should:

- propose particular management actions identified by the assessments that are needed in order to move towards GES, specify what kind of action is needed to achieve progress towards GES in the first monitoring cycle (6 years), and report on it in the first assessment report, including the responsible stakeholders (e.g. improving the regulatory system, stakeholder coordination mechanism);
- define the data needed: the baseline report might identify the lack of data on the assessment criteria;
- specify other particular issues which will be in the focus until the first periodical assessment report: e.g. launch of a research project, test the construction of alternative human-made structures, improve conditions of some of the coastline by the action of rehabilitation, remediation, greening, softening of inappropriate solutions.

Although this is the Baseline status report, one of a series of monitoring reports, it should not remain at the level of a passive state analysis but should encourage active involvement of all relevant stakeholders in order to achieve GES for the coastline. It should be noted that the preparation of the Baseline status report is not an end in itself and is not intended for UNEP/MAP, but rather for the individual country taking responsibility for its coastline as part of a global value. The institution responsible for the preparation of the report in the country must therefore ensure appropriate dissemination of the report and the coordination of the implementation of the proposals for achieving the GES.

3.6 References

List of references should be added.

3.7 Annexes

The annexes should include materials that can further explain/illustrate individual criteria (maps, photographs, list of examples).

[6] Regardless of the importance and possible duration of this process, it is crucial to define GES as part of the Baseline status report and not separately and/or at a later stage. Countries will be able to take reasonable time to prepare this report, but it is not recommended to delay the determination of the GES too much (the process should not take more than 6-8 months). The Mediterranean coast is under great pressure, so it makes sense to adopt individual tools for its development and protection (including CI 16 assessment) within a reasonable timeframe.

4 PERIODICAL ASSESSMENT REPORT regarding the CI 16 on coastline

A periodical assessment report should be prepared for all future sets of monitoring data (6–year cycle). The focus of the report should be on presenting the progress towards GES by assessing if the proposed target(s) was/were achieved, i.e. verifying if the trends are going in the direction specified in GES , as well as proposing actions (operational measures) necessary to turn these towards the desired direction. The results will also be used for the integrated assessment based on all IMAP indicators for the preparation of the periodic Mediterranean QSR. The assessment report should comprise the following chapters.

4.1 Introduction

The background and the general context of the assessment report should be explained (with references to the IMAP), including the information on the recent state of the CI 16 (i.e. with the reference to the Baseline status report or the last periodical report). Also, the purpose of the assessment report is to propose operational measures to be implemented during the following cycle with a view to approach GES.

4.2 Assessment method

The assessment report should include an explanation of the assessment method, including the targets and criteria used for the assessment. In the case that there was a need for the assessment based on additional targets or assessment criteria other than those defined in the status report, these changes should be noted and justified.

4.3 Monitoring data analysis

The coastline characteristics should have already been elaborated in the Baseline status report so there is no need to elaborate them again. Only the key general changes should be highlighted (socio-economic changes, land use changes, increased extent of MPAs, consequences of natural disasters, adoption of relevant national policy, and alike).

First, a comparison between the current and the previous data (i.e. from the previous report) should be made and presented. This will show us the trends. The graphic presentation should be prepared so as to clearly present where and what kind of changes occurred. (i.e. following the types of human-made structures). The locations where significant changes have occurred should be shown in more detail, if appropriate and possible, together with an indication of the circumstances that led to the change of the coastline (e.g. new urbanization, construction of new human-made structures, protection against erosion, expected sea-level rise areas). With the help of the assessment criteria (on the basis of which the Baseline status report was prepared, see section 3.3) the reasons for the change should be explained/justified for the significant parts of the coastline (where the changes deviate significantly from the GES).

4.4 Current GES status assessment

In the next step an **assessment by individual targets** should be made. This analysis will provide an information on the targets that have been achieved and those that would require additional efforts. With the use of the assessment criteria the trend can be justified, i.e. it can be explained why the trend of physical disturbance due to the influence of human-made structures remained within expectations (target achieved) or went in the wrong direction (the target was not achieved or was only partly achieved). In order to share the experience on which measures were effective and contributed to the achievement of the GES/targets, such measures should be briefly presented.

All the above assessment findings should be summarized in an **assessment of achieving GES**. This includes a **narrative description of the current GES status**, a **description of the progress made** since the Baseline status report or a previous periodical assessment report, and the **key pressures and actions** that contributed to such achievement.

The narrative assessment of an individual target and GES should be illustrated by:

- brief narrative of key finding(s)
- scoring if the target/GES has been achieved using a three-point scale
  - target/GES achieved
  - target/GES partly achieved
  - target/GES not achieved
- definition of trend using a three-point scale
  - improving situation
  - stable or mixed situation
  - declining situation

A graphic sign and key description should be a combination of colour/description showing if the target/GES has been achieved and sign/description of trend (see example in table below).

The key findings can be summarized in the table as suggested below:

Target 1	**Target 2**	**Target 3**
Brief narrative description of key finding(s) ...	Brief narrative description of key findings(s) ...	Brief narrative description of key finding(s) ...
● target achieved, stable situation	▲ target partially achieved, improving situation	▼ target not achieved, declining situation

4.5 Operational measures (way forward)

The assessment report not only records and solves the existing problems. Its application should be ambitious and preventive – future oriented. The assessment report should, therefore, define:

- **operational measures** as particular management actions identified by the assessment, that are needed in order to move towards GES, including the responsible stakeholders. These measures

should tackle those targets which have not been achieved or have been partly achieved and should divert the trends in the GES direction;
- other **particular issues** which will be in the focus in the following 6-year cycle: concrete actions to improve the state of the coastline;
- **new/updated targets**, if necessary, aimed at solving the perceived problems or as a reflection of a greater ambition for the future.

The GES definition and the related operational objective should generally remain the same throughout a longer period, considering that these are long-term, strategic statements. However, proposing an **updated high-level** operational objective for achieving GES might also be an option.

4.6 Conclusion

In the conclusion, the key thoughts of the assessment should be summarized. On one hand, the conclusion should be critical (if necessary) in order to draw attention to the consequences of non-achievement of GES for the overall coastal landscape, integrity of the ecosystems, touristic attractiveness and to the contribution of physical disturbance of human-made structures to cumulative impacts. The assessment of the CI 16 should be meaningfully linked to the other IMAP indicators, such as for the integrated assessment. On the other hand, the conclusion should have positive messages encouraging further actions towards a better state of the coastline.

4.7 References

List of references should be added.

4.8 Annexes

The annexes should include materials that can further explain/illustrate individual physical disturbance, particular initiatives which have been made and other contents that would support the text (e.g. maps).

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This publication was produced with the financial support of the European Union. Its contents are the sole responsibility of PAP/RAC and do not necessarily reflect the views of the European Union.